

**Aegean and Anatolian Bronze Age Metal Vessels:  
a Social Perspective**

**Volume I : Text**

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## Abstract

The aim of this thesis is to extend the traditional formal/stylistic approach to metal vessels and access issues such as their role in ancient societies and social dynamics through the application to their study of a theory-informed approach. The choice of geographical and temporal focus, the Bronze Age Aegean and Anatolia, was informed by the complex socio-cultural transformations that these two regions experienced at this time, and an interest in how a study of this aspect of elite material culture might contribute to our understanding of the emergence and maintenance of social differentiation in pre and proto-historic societies. The current study therefore revolves around a diachronic exploration of the advent and development of metal vessels in terms of their style, functions, the techniques involved in their construction, and any inter-regional influences that can be detected and traced. In order to accomplish this it was necessary to devise a combined typology that encompassed the material of both regions, as well as create a database of the Anatolian corpus and update that of the Aegean, both of which are included in the thesis. Another aspect of this work is the study of the ceramic skeuomorphs of these metal vessels, as a means of gaining additional windows onto how notions of valuation, prestige and emulation operated in these ancient societies, and filling some of the gaps in the extant corpora. Given the dialectic that societies produce artefacts as a means of reproducing cultural logic and social relations, the patterns which emerge from the resulting diachronic analysis should be meaningful in terms of the social imperatives behind the changing nature and use of the metal vessels. By relating and comparing these to a variety of theoretical models, it should be possible to infer how metal vessels and their ceramic skeuomorphs fulfilled their roles in, and contributed to, the reproduction of society.

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## Abbreviations

### *General*

LN – Late Neolithic

FN – Final Neolithic

BA – Bronze Age

IA – Iron Age

E, M, L = Early, Middle and Late respectively used with N = Neolithic, B = Bronze, M = Minoan, C = Cycladic, H = Helladic; IA = Iron Age

### *Aegean*

FPP – First Palace Period

SPP – Second Palace Period

TPP – Third Palace Period

### *Anatolia*

OATC - Old Assyrian Trading Colony Period

HOK - Hittite Old Kingdom

HE - Hittite Empire Period

All dates quoted are B.C. unless indicated otherwise.

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## Chapter 1 -Introduction

### 1.1 Scope and Rationale

The aim of this thesis is to explore the role of metal vessels and their ceramic skeuomorphs in the societies and cultures of the Aegean and Anatolia during the Bronze Age (BA. Fig.1.1). Although we have a potentially very rich vein of data and cultural information embedded in both of these aspects of the BA material culture, studies to date have seldom taken advantage of the full scope of theory in order to elucidate questions of valuation, prestige, social competition and inter-regional politico-cultural relations.

As with other classes of prestige artefact from the past, metal vessels have traditionally been approached from an art historical point of view. A potent combination, particularly in the case of gold and silver vessels, of their metallic value, elite associations and the high craftsmanship witnessed especially in their elaboration, has resulted in them being characterised by means of the way they have been studied and presented. Equally popular has been a classificatory approach involving the creation of typologies and the spatial and temporal mapping of the resultant types. For the Aegean, Matthäus' study of the Cretan and Mycenaean bronze vessels (1980) typifies this approach. His text consists of a vessel-by-vessel description with some technical information and is accompanied by a fine-grained typology. However, he offers no social, and very little historical, contextualisation for this part of the corpus, and the distribution maps resulting from his typology sketch only the broadest patterns with no indication of period or quantities. While this kind of study is an essential building block of further research, there has been a tendency for such studies to be ends in themselves, and tend to result in the objects being framed as static culture indicators. In contrast to Matthäus, Davis' study of Aegean gold and silver vessels (1977) did not approach typological issues at all, but rather focussed on delineating the techniques and stylistic characteristics used by Minoan smiths from those employed by their Mycenaean counterparts. Her study presents many interesting and useful observations regarding this part of the corpus, with some remarks about individual vessels' possible connections with pieces from elsewhere in the eastern Mediterranean. However, it also largely lacks a socio-cultural context and, because of its lack of a typology and the thesis' geographic



restrictions, it necessarily omits a view of both micro and macro patterns in BA Aegean metal vessel production as well as intra- and inter-regional trends.

While both of these studies have undoubtedly contributed considerably to our knowledge of the Aegean corpus, their methodological orientations have necessarily resulted in an interpretative gap regarding BA prestige material culture. Firstly, the individual study of bronze vessels on the one hand, and gold and silver ones on the other, creates an artificial separation in this class of the material culture which, if we are to understand its role in ancient society better, needs to be studied more holistically. Another type of separation resulting from such studies is geographic and cultural. In contrast to the modern geo-political boundaries between the Aegean and Anatolia, these two areas were neighbouring and overlapping, metal-rich areas with similar social trajectories in antiquity (Gates 1994:297), and a comparative study of both corpora offers the possibility of shedding further light on the social dynamics of the period. The absence of a comprehensive study of the Anatolian vessels has no doubt also contributed to this situation.

A second aspect of this gap in Matthäus' and Davis' studies is the under-theorisation, on a number of levels, of prestige material culture which has been prevalent until quite recently. They describe the materials and techniques used, the changes in forms, stylistic devices and motifs, but do not ask why these were chosen over other options, what meaning these objects held, nor why, how and in what contexts they were produced, acquired value and were used. My research has been predicated on the belief that, as with all aspects of material culture, the study of metal vessels holds much more potential for the extraction of social information regarding pre and proto-historic societies (Hodder 1982; Shanks & Tilley 1987). If we continue to study objects through just one or two of their dimensions rather than at least attempting to perceive the many facets of their creation by, role in, and action on society, then we hinder our potential for understanding the past on its own terms. As Lemonnier has noted, "by taking material culture for what it is, a social production, anthropologists and historians expand the range of the cultural phenomena they study as well as their chance of understanding them." (1993:26). The following section therefore briefly outlines some of the theoretical concepts which have informed my study, in anticipation of their fuller discussion in Chapter 2.



## 1.2 Theoretical Orientation

Metal vessels are multi-faceted objects which both fulfil practical functions and meet aesthetic imperatives. They can be used in both socially-structured ritual or mundane contexts, and be trade commodities or heavily valent gifts. As crafted objects their creation involves an interface of technology, choices and specialist knowledge (Lemonnier 1993), and as such they tend to be vectors of innovation. In the ancient world particularly, the latter, combined with the acquisition of the raw materials from distant, often unknown places and its alchemic transformation into vessels, could imbue these objects with connotations of the exotic and esoteric associations (Budd & Taylor 1995; Helms 1993). As such they can have 'biographies' which link them to actions, people, places and events, and by means of which value may become attached to them (Appadurai 1996; Kopytoff 1996). Consequently, there are several areas of theory that are somewhat inter-related and germane to my aim of unwrapping the more detailed aspects of the role of metal vessels in antiquity. In addition to the construction of a model, my aim in exploring these is to consider how it is possible to re-orient the way we study and interpret objects made and used by ancient societies.

One of the shortcomings in the way ancient objects have been studied until recently has been to concentrate on their function at the expense of other aspects such as style, and a preference for practical explanations over cultural ones when explaining innovation and technological change (Dobres & Hoffman 1999:12). The introduction of metal vessels represents, both technologically and cognitively, an innovation in the application of a material which had been known about, experimented with and used to make small items such as jewellery, tools and weapons for several millennia. It involved not just the development of new techniques but a change or extension in the way people thought about metal and its uses. The new use of metal represented both a conscious decision and ability to produce a new class of material culture which cannot, I believe, be explained by traditional deterministic evolutionary or practical need models. Instead this innovation needs to be considered from the point of view of the choices made as a way of accessing the human, and thereby the social, element behind the creation and use of this new class of material culture. As Dobres and Hoffman have noted, "world views come to be represented in and by the specific material choices technicians make....how mental schemas are manifest in technological end-products and in the way



they are used by agents with a variety of personal and collective agendas." (ibid 1999:9).

The items we select to surround ourselves with are the physical manifestations of the choices made during the process of technological practice, from the point of their creation through to their use and/or consumption (Hoffman & Dobres 1999:216). These choices begin with the medium chosen, and involve a spectrum of considerations and decisions from its practical qualities through to culture-specific perceptions of its symbolic meaning, expressed perhaps through colour, form and decoration (Hosler 1994; Lechtman 1988, 1996). Distinct suites of such technological choices observed in a culture's artefacts have been conceptualised as technological styles (Lechtman 1996; 1999) as a means of relating such patterning with the originating culture's world view. The expression of cultural principles and idioms through technological actions can also be perceived in the ways the natural possibilities and constraints of materials are managed by craftspeople in order to achieve a desired, possibly innovative, effect in the finished product (Lechtman 1999:223). By extension this concept applies to the use of clay to evoke 'metalness' and may therefore assist in understanding the temporal and spatial variation in the way metalness is represented in ceramic skeuomorphs.

However, as Bourdieu has indicated in his concepts of *habitus* and routinization, some of these choices may be driven by sub-conscious ideas regarding normative behaviour that are specific to the community/culture of the object's maker and or users (Bourdieu 1977). In turn, the resultant objects serve to habituate individuals to the codified cultural idioms by means of their use. A continually reflexive relationship between society and the objects it makes and uses is established which can both serve to reinforce or contest power relations (Hoffman & Dobres 1999:219). Therefore, the final product reflects a process of conscious and sub-conscious decisions on the part of the maker, decisions which in turn may be partly or wholly driven by what they perceive a consumer may want. Additionally, entwined at all levels of this decision-making process are also notions of appropriateness, that is, its practical applicability, whether it fits idiomatically and stylistically into the existing material culture, and perhaps even whether it fits symbolically the purpose for which it is intended. Thus, the production process is one way in which items of material culture become imbued with meaning and have layers of value attached to them and in some cases, acquire a biography.



Consequently, they become solidified emblems of valency with cultural resonance, ideally suited to a role in situations of social competition and thus ultimately acting back on, and contributing to, the recreation of the society that made them (Dobres 1999:138; Hoffman & Dobres 1999:213). Thus, by considering innovation in these ways, we can shift the study of objects from the what happened to the why and how.

In this respect it is necessary to understand technology as a broader concept than simply that of manufacturing ideas and actions. The concept of technology extends to the behaviour surrounding the use of objects in the form of their skilful, social manipulation. The modern opposition between art and technology belies the original sense of the *techne* which encompassed skill and artifice as well as mechanical production (Ingold 1999:viii). Various ethnographic studies highlight that importance is placed as much on the objects used as on how skilfully they are manipulated in the negotiation and reinforcement of power relations (Fernandez 1973; Fraser & Cole 1972; Helms 1993; Ingold 1999: iv). Technology can thus be seen as social behaviour (Hoffman & Dobres 1999: 215) and changes in the latter, as they relate to the objects as indications of socio-cultural innovations, are therefore significant. Such social technological practice can be manifest in various ways, but one which is archaeologically recoverable is that of conspicuous consumption through the intentional destruction of valuable objects, or their removal from circulation by use in burials. Such events are often dramatic and ritualised, collaborative and may involve some form of feasting (Dietler & Hayden 2001; Hoffmann 1999; Joffe 1998). They also create and provide opportunities for the acquisition and maintenance of power and prestige (Helms 1988; 1993; Hoffman & Dobres 1999:219). Thus meaning is generated through such social practices, and significance and value become associated with the things manipulated in these practices (Ingold 1999: xi). In terms of the Aegean EBA, recent studies have specifically identified the emergence of arenas of social competition predicated on the acquisition and consumption of prestige, valued items (Broodbank 1993,2000; Nakou 1995). However, no such studies have been made regarding the contemporary situation in Anatolia, nor for the ensuing periods in either area. It is within this theoretical framework, and the context of the principal cultural and political transformations, that I intend to examine the introduction and subsequent roles of metal vessels and their skeuomorphs.



### 1.3 Methodology

Before outlining my own approach, it is necessary to make some observations regarding the nature of the data/material under study. In contrast to the contemporary pottery record, the BA metal vessels which have survived in the archaeological record are much fewer and further between. In addition to factors such as the raw material cost and availability having restricted the amount originally made, the practice of recycling metals (Sayre et al.1995) in antiquity meant that many vessels did not survive to the point of being deposited. On the other hand, it should also be kept in mind that their durability and value may have resulted in their being in circulation for some time prior to deposition and that their find context should be taken as simply a *terminus ante quem* for manufacture and use (Nakou 1997:637). Furthermore, their prestige and metal value would have meant that their use was, for much of the period under study, highly prescribed both in terms of who used them and for what. It is therefore not surprising that many of the vessels have survived because of intentional depositional practices such as burial and hoarding. For example, we see peaks of this in the last quarter of the third millennium in the north Aegean and north central Anatolia (Nakou 1997:635), and again in the Mycenaean Shaft Graves. Consequently, we should view these examples as changes in behaviour leading to their preservation rather than necessarily extraordinary increases in production. However, for certain periods in both areas there are gaps in this aspect of the data due either to the lack of elite burials (e.g. Imperial Hittite, MM I-LM IB), or seemingly some communities' inability to obtain, or unwillingness to use metal vessels for funerary purposes, such as may have been the case in the MH period on the Greek mainland. There again, the latter is in sharp contrast to the sudden appearance of extreme wealth and number of metal vessels found in the LH I Shaft Graves.

Turning to the other mechanism by which metal vessels have survived, that of accidental deposition by means of destructions and shipwrecks (e.g. those of the Minoan SPP and the Cape Gelidonya and Ulu Burun wrecks), the picture is again patchy. For example, in the Aegean there are various destructions at the end of the FPP but only one vessel, the silver kantharos from Gournia, was 'trapped' by this means. Similarly, the abandonment and removal of valuables prior to the destruction of the Hittite capital at Boğazköy resulted in only a few metal vessels surviving archaeologically, despite the great wealth that this site would originally have contained (Seeher 1999; it is possible that a similar scenario occurred at Kültepe). As a result, the



overall picture that emerges is one of a series of 'poolings' of vessels at disparate places and times throughout the period. One consequence of this is that metal vessels do not always allow the same degree of fine-grained chronological resolution as pottery vessels. Even when found in conjunction with well dated pottery, it is necessary to be mindful of the possibility that these vessels may have been curated (e.g. as heirlooms) for some time prior to their ultimate deposition in graves or destruction horizons. While this means that the date ranges for some of the vessels are perhaps wider than for most ceramics, it somewhat negates the more delicate issues that often problematise the study of regional ceramics. However, apart from the occasional possibility of finer resolution, this means that in general the patterns observed regarding the consumption of metal vessels need to be studied as broad trends, which suits the nature of this study and the questions it is seeking to answer. In certain cases, this can be supplemented by more detailed information from sites with a greater quantity and variety of vessels dated to within a much shorter period of time such as at Alaca Höyük<sup>1</sup>, Kültepe Kanesh, SPP Knossos and the Mycenae Shaft Graves.

Another consequence of the unevenness of the data is that, while on the one hand this presents the problem that we inevitably have gaps in our knowledge of what was originally the full corpus of shapes, it also offers an interesting opportunity. Precisely because the depositional method for many vessels was intentional rather than accidental, this gives us pointers to the context of their use (highly structured, ritualised and socially powerful). However, the advent of skeuomorphs adds another interesting dimension to this question as, firstly, it is sometimes possible to perceive indications in clay of pre-existing individual metallurgical techniques that have not survived in metal form in the archaeological record, and secondly, to perhaps fill in the gaps of entire metal shapes that have not survived.

This leads to the question of my approach to studying the data, and identifying the kinds of models of social dynamics outlined in section 1.2 above. The majority of the information in the database was gathered from published sources, but I was kindly permitted to restudy some of the Alaca material which gave me insights into details of these vessels' construction, information which is largely missing in the excavation reports. I also observed and practised with metal smiths and potters in Turkey and England in order to gain a first-hand understanding of the nature of the materials and the

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<sup>1</sup> Hereafter referred to simply as Alaca.



techniques used. Consequently, I have acquired more of an inside understanding of the processes involved, and options available when crafting vessels in these media.

My basic theoretical stance, namely that metal vessels embody the choices and ideas of the societies that made and used them, informed my approach to their study. In practical terms this meant that I considered not only what types were chosen to be made and details of their form and decoration, but the co-variance of vessel type and metal, and the collections of techniques used by smiths at particular times and places, as well as the alternatives not taken and the types of vessels not made. From this my aim was to build a picture of the technological styles by area and period. A diachronic consideration of vessel functions, inferred from forms, and their use contexts (where possible) was used to perceive any changes in their social role.

Turning to the analysis of the data, I considered the scale(s) or levels at which it was possible and relevant to study the corpora. Given the general tendency noted above of metal vessels to pool periodically at different places, I found that within each of the two regions (the Aegean and Anatolia) there were usually sites in and around which most of the vessels were found, and these I refer to as areas (e.g. north central Anatolia, Crete etc.). I therefore decided, firstly, to identify for each period, at this local level, patterning in the groups of vessels of the metals used, vessel type, style, likely function and motifs in terms of quantity and how they co-vary with each other. Then, where possible, I compared these patterns with those from other groups in the same region (Aegean or Anatolia) and finally, the patterns from both regions were compared to obtain a broader picture within each period and also diachronically. From this I was able to identify, for example, period and area/region-specific predilections of vessel types and their likely uses, make comparisons with the preceding and/or following period and interpret these in the light of the principal social transformations of the various periods. Similarly, technical, stylistic and functional innovations were considered in this way with a view to explaining their occurrence at particular times and places.

A consideration of the ways in which metal was skeuomorphed in ceramic is another lens through which to investigate the social dynamics of the period and how metal vessels may have acted back on the societies that made and used them. Oriented by predominantly a ware-based approach, I have taken a broad view of the changing ways in which metal was represented in clay, identifying the different shapes, techniques,



colours and forms of decoration and motifs employed at different places and times that were used to evoke metalness. By contrasting this once again with the alternatives that were not chosen by potters, it is possible to start constructing a view of changing aesthetics as well as gaining insights into mechanisms of emulation. By combining a study of both the metal vessels and their skeuomorphs in this way, I consider both bottom up and top down effects on material culture and social dynamics.

This leads to the final part of my methodology which aimed at exploring the sociality of these aspects of the material culture. Predicated on the dialectic that societies produce artifacts as a means of reproducing cultural logic and society (Dobres & Hoffman 1999:6), the patterns that emerge through the above analyses should be meaningful in terms of the decisions and social imperatives involved in their production and use. In order to interpret these patterns it is necessary to consider them in the context of the principal social phenomena and politico-cultural changes. As Dobres and Hoffman have noted "These larger frames of reference are an integral part of the antecedent social and material conditions giving rise to particularly structured material practices." (1999:7). Finally by relating and comparing this to the various theoretical models mentioned above, it should be possible to infer how metal vessels and ceramic skeuomorphs fulfilled their roles in, and contributed to the reproduction of, society.

#### **1.4 Geographic and Temporal Parameters**

I have already partly indicated my reasons for choosing the Aegean and Anatolian BA as the focus for exploring these issues through the material culture. More specifically, my choice enables me to investigate questions of social dynamics for two inter-related societies during the pre- and proto-literate stages of their development, as they became increasingly involved in the social and economic melting pot of the much longer established societies of the Near East. It is my belief that metals played a key role in driving these developments and thus the study of metal vessels, combined with that of their reflections in clay, provides a potentially very rewarding lens through which to investigate the social dynamics of not just of the elites, but also of other social strata as the means for sumptuary competition became more widely available. Furthermore, my choice of geographic parameters for this study (fig.1.2, fig.1.3) was informed by a desire to sublimate modern ideas of geographic and political boundaries in order to gain further understanding of the nature of contact between the two areas in the BA. Various studies of inter-regional contact and trade between the Aegean and Anatolia (French



1968; Rutter 1983; Sherratt & Sherratt 1991; Sampson 1993; Sapouna Sakellarakis 1987) have shown the two areas to have been more closely linked socio-culturally in antiquity (Gates 1994:297). A theory-informed, diachronic study of this aspect of the material culture of both areas can therefore add to our understanding of how social differentiation and power developed and was accrued through the acquisition and social manipulation of these exotic and prestige items.

Another reason for this choice of temporal and geographic focus for my thesis is that this is a period of significant technological and stylistic innovation in metallurgy and also pottery. A combination perhaps of greater availability of metals and improved metallurgical techniques spurred a cognitive shift that resulted in the production of vessels made of metal for the first time. Hence the starting point for my study is the EBA and its termination the end of the LBA when the societies that were the principal players finally collapse and quite different cultural and political situations emerge from the ensuing hiatus of the early IA. With respect to the chronological scheme used here I have adopted the established cultural period subdivisions which in both the Aegean and Anatolia provide quite a close chronological fit, details of which are shown in Fig.1.1. However, in order to be able to refer more generally to periods of time and events during the second millennium without using lengthy region-specific terms, I have adopted the following nomenclature: early-, mid- and late-second millennium. A table showing how these correspond to other terms used in the text and the literature more generally can be found in Table.1.4. A note also needs to be made here regarding the use of the term TPP for the period in the Aegean which largely covers the LBA. This term is used to indicate a third period of time when palaces existed in different parts of the Aegean, and also in order to be congruent with other terms used in this thesis (FPP, SPP), but it should be noted that in the early phase (LM II-III A1 on Crete) when there was a palace at Knossos on Crete, there were none on the Greek mainland, whereas in LH III A2-B the reverse was true. The frequency and distribution of rich graves also fluctuates across the period and region with, for example, a concentration of them on the mainland dating to LH II-III A1 that continue Early Mycenaean practices followed by the far fewer in the succeeding LH III A2-B, while on Crete in LM II there is a sudden horizon of tombs containing rich deposits, a situation which ceases at the end of the period. Thus, although the term TPP has been used as an chronological umbrella term it is necessary to emphasise the fact that this period of time witnessed diverse trajectories across the Aegean (of which see Chapter 3).



### **1.5 Catalogue and Typology**

Due to the absence of a catalogue of Anatolian metal vessels, a central pillar of this research was therefore the compilation of as complete a catalogue as possible of this material. Also, as the components of the Aegean catalogue were compiled in 1977 and 1980 (Davis 1977; Matthäus 1980), I have also researched an update of them. In my catalogue I include not only complete and damaged/partial vessels, but also vessel components and fragments e.g. spouts, handles, rim fragments etc., and where possible attribute these to known shapes. These databases are included in Appendices 1 and 2. I explain the construction of these in a brief introduction at the head of the appendices, and discuss the attendant combined typology for the two areas in section 2.2. However, I would note here that in themselves these databases represent a significant contribution to current knowledge of this material, not least because this entailed a re-study of part of the material from Alaca, as well as a platform for future research. Similarly the creation of a unified typology for both the Aegean and Anatolian material facilitates a more meaningful study of the technological and stylistic similarities and contrasts between them. The updating of the Aegean catalogue is also an important aspect of this research, as it ensures that our knowledge of the surviving examples of the Aegean metalsmiths' craft is as current as possible and serves to clarify some of the existing distribution patterns previously observed.

### **1.6 Outline of Structure**

It therefore remains to explain how this dissertation is structured. This study thus covers approximately a two thousand year period across a large geographical area in which numerous social and political changes took place. It was in this complex context that metal vessels emerged and, as I aim to demonstrate, they immediately assumed an important social role. For much of this period the societies involved were either pre- or proto-literate and I have indicated the value of material culture studies in the extraction of otherwise unavailable information about these societies. It is my contention that the acquisition and skilled crafting of metals was an important element in the development of Bronze Age Aegean and Anatolian societies. More particularly, the introduction of a whole new class of prestige object not only expanded the means with which to compete socially, but also these objects in turn began to shape the societies that made them. It is the aim of this thesis both to characterise these changes and to unravel the processes by which they occurred.



Therefore, in Chapter 2 I outline previous work in this field together with the methodology I applied to the devising of a new integrated typology for both corpora. I also discuss the various theoretical concepts and models which may be useful in interpreting the diachronic patterns that emerge from the data, and consider the phenomenon of skeuomorphism and how this may be of further use in elucidating the contemporary social context. This is followed in Chapter 3 by an outline of the principal socio-cultural transformations in both of the regions covered by this study, with the focus on those social, technological and economic developments that relate directly to the production and use of metal vessels.

A comprehensive discussion of the corpora is presented by period in Chapters 4 through 7, which highlights diachronic changes in vessel shapes, style, decoration and distribution as well as the materials and techniques used. In Chapter 8 I examine the principal forms and wares in which ceramic skeuomorphs appear during this period, highlighting how the perception of what constitutes metalness in clay changes through time and, combined with a consideration of the textual and pictorial evidence, exploring how our gaps in the metal vessel repertoire might plausibly be filled. Finally in Chapter 9 I present my conclusions regarding how metal vessels became a powerful addition to the arsenal of elite sumptuary tools used for social manipulation, and outline the dynamic relationship between metal vessels and the Bronze Age societies from which they sprang.

## Chapter 2 Previous Work and Current Theoretical Approach

As stated in Chapter 1, the aim of this thesis is to extend the traditional formal/stylistic approach to metal vessels and access issues such as their role in ancient societies and social dynamics through the application to their study of a theory-based approach. A first step in contextualising the vessel data and analyses presented in Chapters 4-7, is to consider previous approaches to this subject, and how this study can build on and go beyond these by asking other questions of the material. Therefore what follows is first a discussion of how the metal vessels of the two areas have been studied to date. This is accompanied by an explanation of the rationale involved in my creation of the Anatolian, and updated Aegean, databases plus a new combined typology for the corpora of the two regions. I then revisit the theoretical concepts mentioned in chapter 1 for a fuller exploration of how these might be able to illuminate the social situation surrounding the introduction, and subsequent social role, of metal vessels and their ceramic skeuomorphs.

### 2.1 Research to Date

Although thousands of artefacts of bronze, silver, gold and other metal alloys have been recovered from excavations in the Aegean and Anatolia since the late 19<sup>th</sup> century, their systematic study only began in earnest in the 1960's. During the subsequent two decades the Aegean artefacts were published in corpora according to their material and/or period (Branigan 1974; Davis 1977; Matthäus 1980) and their study has been mainly characterised by stylistic, economic and technological approaches (Branigan 1968; Davis 1979a, 1979b; de Jesus 1980; Muhly 1973; Renfrew 1967).

The first synthesis was by Branigan (1974) who worked within a traditional framework, cataloguing EB and MB Aegean artefacts by type, studying their style and the techniques used to manufacture them. However, as the extant Aegean corpus for this period includes very few vessels, his study necessarily focussed predominantly on weapons, tools and toilet/jewellery items. Here metal was treated as both a chronological indicator and a gauge of the extent and direction of interregional contacts stimulated by the desire for metals. He also drew a connection between the location of EM settlements and rather flimsy evidence for metal extraction and smelting to support



his hypothesis that ores were locally exploited in Crete at this time. The existence of substantial copper sources on Crete has subsequently been firmly refuted (Stos-Gale 1993), and his ideas regarding where the first flashpoints of Aegean metal production were located have now largely been discredited. The likely sources of metals in the Cyclades was also an issue addressed by Renfrew in one of his early studies (1967), but more specifically this article sought to establish the importance of metallurgy in the EBA Cyclades and its role in stimulating trade and extra-island contacts from which an 'international spirit' developed.

Shortly after the latter article, Renfrew treated this and other evidence for Aegean metallurgy as one of several themes encompassed in the first major processual investigation of how and why civilisation appeared in the form that it did in the Aegean Bronze Age (Renfrew 1972). His application of systems theory to demonstrate the indigenous source of innovation in many areas of Aegean culture at this time, can be seen as both a response to traditional diffusionist models (Childe 1930) and as a reflection of the intellectual environment prevailing in archaeology in the 1970's. The roles played by metallurgy in the overall model proposed were as a store of wealth, and a means of expressing status and of exerting power over others through weapons. It is thus evident that both of these studies typify the approach that describes the effects of a new technology and substance on a society, rather than seeks to elucidate the extant social and cultural conditions that facilitated the adoption of such inventions.

Davis was the first effectively to approach the concept of technological style in metal vessels, albeit rooted in an art historical framework. Her Ph.D. thesis (1977), while principally a catalogue and stylistic analysis that aimed to trace local technical and style trajectories in the development of gold and silverworking, did subtly explore questions of style and tastes that were specific to different parts of the Aegean. Additionally, by distinguishing which techniques, motifs and effects were favoured by Cretan craftspeople from those preferred by their Greek mainland counterparts, she was able to suggest the nature and patterns of information/personnel exchange and influence between the two areas.

Her starting point was the differences in the decorative subject matter and executional style of the two gold Vapheio cups (ibid:3). Through comparison with the techniques and motifs used in other artefacts that have been securely attributed as examples of



either Minoan or Mycenaean art and craftsmanship, she concludes that one of the gold cups (the 'quiet cup') was designed and made by a Minoan smith, the other (the 'violent' cup) being an imitation of it by a Mycenaean smith (ibid:4-35). Combined with a similar appraisal of the rest of the corpus extant at that time, she drew a number of conclusions:-

- Minoan smiths used a wider range of, and more sophisticated, processes including discrete forms of fusion, cold hammered inlay, compass and turning wheel, casting and hidden copper strengthening which resulted in a more refined end product (ibid:45,122,146,329).
- They worked almost exclusively in silver with a predilection for three dimensional curves, contoured handles and rims and liners for vessels, especially where the walls were thin due to repoussé decoration (ibid:330).
- The Minoan products display a taste for rich colour contrasts achieved through extensive gilding, silvering and occasionally patination, all of which demonstrate a mastery of temperature control (ibid:152, 331-2).
- Certain details and motifs, such as three hemispherical rivets at handles, bulls, rosettes and palm trees, torus molding, L-shaped lower terminus of Vapheio spool handles (ibid:38-39,42,43,49,146) were employed mainly by Minoan smiths.
- Minoan smiths were working on the Greek mainland as early as the period of Shaft Graves IV and V at Mycenae (ibid:37,146-7,167).
- Mycenaean smiths were less technically proficient, using more basic techniques (usually just raising by hammering) to produce simpler forms (ibid:329). These vessels were more 'grandiose' in size with goblet stems, for example, being longer than on their Minoan counterparts and formed separately from the bowl (ibid:47,166,146). The only other distinctive Mycenaean techniques was the use of small flat rivet heads, sometimes plated on both inside and out, and the rolling of handle edges round strengthening wire (ibid:127,131).
- The decoration on Mycenaean vessels was executed from the outside (ibid:127), and where repoussé was used much exterior surface chasing was used for definition, often resulting in a less well finished item (ibid:329).
- The most popular Mycenaean motif was the lion and Davis suggests that the mainland lion rhyton was introduced in emulation of the Minoan bull's head rhyton (ibid:182). The projecting rib round the centre of straight-walled cups is only found



on Mycenaean vessels and Davis believes that the Mycenaeans introduced niello to the Aegean (ibid:122,132).

Davis makes several additional observations that are particularly germane to this study. Firstly, she notes numerous similarities between Anatolian metal vessel techniques and forms, particularly those of the north central area, and those of Minoan Crete. These are discussed in Chapters 4 and 5, but in brief these include the technique of extending the handle in one piece from the rim (ibid:198), a practice found earlier in Mesopotamia at Ur (Woolley 1934:pl.238 types 87,90-92), the use of fusion on precious metal vessels only on the lower handle termini (cf. e.g. jug handles Arik 1937 pl. 171, 235; Koşay 1951 132, 147, 176, 179,196.2, 204.1) and when combining gold and silver parts on the same vessel (cf. e.g.Koşay 1951:pls.131 no15, 177 below). In contrast, fusion by soldering is used extensively in Troadic material (ibid:54-55). However, it should be noted that 17 vessels, most of which were found on the Greek mainland, and which she attributes to Minoan smiths, employed fusion in their construction. In line with her theory of Minoan smiths working for the Mycenaean elites, this may indicate the latter's predilection for this type of work.

She further notes that strong (central) Anatolian influence on Minoan metal vessels can be seen in the forms and decoration, citing in particular the Gournia lobed kantharos and ceramic examples from Alaca, Karahöyük, Alişar, Boğazköy, Kültepe and Acem Höyük (ibid:88-89), and intricate linear designs such as the spiralnet, chevron border, guilloche and running spiral, which in Minoan artefacts often include mistakes (ibid:84-5). She proposes that this influence was stimulated by the search for silver by the nascent Cretan elites situated in the north and east of the island, who found that the south Anatolian "silver mountains" mentioned in the later Hittite texts were a good source of this metal (ibid:87). She feels that this supply line, and silver's relative cheapness to gold (8.25:1 gold:silver, see Larsen 1967:99) at a time when Cretan palatial culture was getting established, may account for the Minoan predilection for silver vessels over gold ones (ibid:93). Furthermore, silver was also available within the Aegean from the mines at Lavrion. In further substantiation of the comparative economic inaccessibility of gold to the Minoans, she points to the very small amounts of gold used in vessels and jewellery (for gilding beads, overlaying rims etc. and in the form of foil) and the great care taken in its working (ibid:95-6).



Davis believes that Cretan smiths had a fine reputation abroad from relatively early on. During the FPP, when we have virtually no extant Minoan metal vessels, the Mari tablets mention that Caphtor products were in circulation in northern Mesopotamia (Dossin 1939:111-2). Also, later tablets from Ugarit (14<sup>th</sup>/13<sup>th</sup> c.) mention a god of arts and crafts on a throne at Caphtor (Gordon 1966:44-5). This high level of craftsmanship in metallurgy is also seen in jewellery of the FPP (Davis 1977:100-1). Davis observes that the proficient crafting of the SPP must have been the result of several centuries of development (ibid:104), citing the Zakro silver with gold and electrum ewer as an example (her cat.no. 13), that is, from at least the FPP for when we have very few extant examples. In contrast, Davis considers that the standard of craftsmanship in the earliest Greek mainland vessels from Circle B at Mycenae does not indicate that they are the result of a long tradition (ibid:125). She suggests that Minoan smiths began working on the Greek mainland from the time of Shaft Graves IV and V of the later Grave Circle A (ibid:37, 146-7, 167, 203), and that by implication, the subsequent, more proficient Mycenaean vessels would have been in part the result of their influence/coaching.

Finally, she postulates a spread of Trojan influence in metallurgy westwards during the EBA through the islands to the Greek mainland citing, in addition to the metal 'sauceboat' and ceramic depas shapes, the occurrence of the raised central boss with concentric circle in the base of vessels (e.g. her cat.nos.25-28, 30-35, 55-60), a feature which is common on Troadic vessels, particularly pans (cf. my cat.nos. 131, 154, 217, 218). She also notes in support of this Trojan jewellery features such as biconical beads, chains and soldered links, which have been found at Poliochni, Thyreatis in the Peloponnese and Levkas (ibid:58). However, if such influence occurred, it is not possible to tell whether it continued into the MH period, as no vessels have survived, but it may be possible to both answer this question and fill this gap in the metal vessel corpus from an examination of MH ceramic skeuomorphs (see Chapter 8). Whilst on this subject, Matthäus (contra Davis) appears to suggest that pre-Shaft Grave Greek mainland-produced metal vessels did once exist as he feels that the LH bronze vessels are more developed in form and technique than their EH predecessors (1980:339), and that this therefore indicates that we are missing a phase in the Greek mainland's metallurgical evolution during MH.

However, the picture that Davis presents of two very focussed streams of influence on Aegean metal vessels, namely a central/south Anatolian influence on Minoan



metallurgy, and an earlier Troadic influence on that of the Greek mainland, is brought into question by two pieces of evidence. Firstly, casting, the extensive and proficient use of which is witnessed almost exclusively in Minoan vessels in the Aegean (ibid:336), is primarily a feature of Troadic metallurgy within Anatolia, although equally, this technique may have been learned by Minoan smiths from the more advanced workshops of the Near East during the early part of the second millennium whence Minoan contacts were increasing (see section 3.2 below). The second piece of evidence, is the use of spool handles on Minoan 'Vapheio' cups, which is another Troadic feature found on pan handles. Furthermore, the Minoan application of the spool handle (vertically on a cup versus horizontally on EBA pans) has a metal predecessor in the Tôd Treasure (de la Roque et al.1953: pl.31), and a ceramic one from Kültepe Karum II (Özgüç & Özgüç 1953:258, fig.419). The earliest Minoan ceramic version (Evans 1921-35:245, fig.183.b.1), which dates to MMIII, occurs on a globular vessel with offset vertical collar and horizontal grooves that is reminiscent of Anatolian metal and ceramic vessels (Özgüç & Özgüç 1953:20,171-2, pls.29; 32). The direction and extent of influence is thus not quite so clear cut. Also, the origin(s) of the Tôd Treasure remain uncertain but I concur with Davis on the possible Anatolian origin for some of it (ibid:74-78), and the observation that these vessels "present features that occur later on Aegean metalware." (ibid:75).

Turning to the other principal Aegean study, that by Matthäus, this reaches few firm conclusions regarding the social role of copper and bronze vessels, or what they indicate regarding cross-cultural relations. Furthermore, the comments that he does make are tentative and highly qualified which he attributes to the unevenness of the data (1980:326,338). He therefore tends to restrict himself to notes at the micro-stylistic level of the developments of certain individual forms e.g. the three-footed cauldron, straight-sided cauldron, two-handled dish, large handled pan and hydria (ibid:338,340). Additionally, he offers no explanation or rationale for his typology, and he has a tendency to be somewhat contradictory. For example, while he says that Minoan smiths (and their descendants) probably worked for the Mycenaean elites on the Greek mainland, contrary to Davis he does not think it possible to divide the corpus according to the origins of the smiths who made them as the vessels are generally very plain and lack distinguishing design features (ibid:341). Yet, on the previous page he speaks of material exhibiting Cretan technical superiority found in both Cretan and mainland graves (ibid:340).



However, his observation (ibid:333, 338) that it is difficult to plot the continuous development of Minoan and Mycenaean vessels because of the lack of examples from the EBA and MBA, and the fact that the corpus dates to a limited period (LM/LH I-LM/LH IIIA with a few exceptions), is valid. During this period there are virtually no differences in the basic construction processes used of raising by hammering, casting and the riveting of numerous plates together, although techniques are gradually refined, and very little is known about the tools used (ibid: 326-7, 333, 343. cf. Branigan 1974 catalogue for tools). However, he does note that there is a bloom in 'Minoan artistry' during the TPP (LM II-IIIA) but offers no explanation for this (ibid:340).

This said, there are several general points that should be noted here, while others are incorporated into the data Chapters 6-7:-

- The heavy oxidation on much of the corpus often makes it difficult to determine the techniques used (ibid:326), but he makes some observations. The earliest (and some of the latest) examples of very big vessels (e.g. cauldrons, kraters and hydria), were made by rivetting together several pieces of hammered often copper sheet, resulting in quite low quality vessels with patched cracks and faults which would not always have been watertight (ibid:327). Some repairs may have been due to long-term use (ibid:332). He notes that the multiple riveted plates technique was used on vessels from the Royal Cemetery at Ur and that in the second millennium it was widespread from Anatolia to India (ibid:327). Although the earliest example of it is the small three-footed cauldron from Quartier Mu, Malia, dating to MH II (his cat.no.41), he suggests that EMII ceramic jugs with rows of small indentations from Ayia Photia and Myrtos may indicate an earlier use of this technique (contra Branigan 1974:89,157).
- For finer vessels, bronze was used for casting, as it cools more evenly than copper, (ibid:323), thus avoiding unsightly riveting joins. In other cases, a torus moulding round the shoulder, or later a flat decorated band, was used to hide joins, as was stamped decoration on separately cast rims of lekanai and one-handled broad-rimmed bowls (ibid:328). This point is noteworthy with respect to ceramic skeuomorphs exhibiting such details, as it suggests a reference not just to the appearance of a metal model but its construction techniques, and may thereby enable us to push back the date for the earliest use of such techniques in the Aegean (see Chapter 8).



- He believes that gold and silversmiths dominated the evolution of metal vessels but offers nothing in support of this (ibid:343).
- While much of the TPP material derives from, and was probably made in, workshops in the Argolid, he believes there were others in Messenia producing vessels for the Pylos elite which were ultimately deposited in the early tholos graves there (ibid:341). Pointing to the LB III evidence of both the Jn series of Linear B tablets and the workshops at the palace of Pylos, he proposes that some smiths were dependent on the palace for materials and commissions while others worked at and for the temples which also had stores and workshops (ibid:342).
- He suggests that the Balkans and/or Sardinia may have been a source of Mycenaean metal supplies, pointing to the latter's expansion of trade with Europe and an Aegean copper vase found there in support of this theory (ibid:325). This concurs with Davis' theory that this trade was at least in part responsible for the considerable precious metal wealth found in the Shaft Graves (1977:250).
- With respect to foreign influences, he concurs with Davis in citing the spool handle, central boss with concentric circle ring bases and, on cups, handles made in one piece with the rim as having come from Anatolian prototypes (1980:339). More generally, he attributes soldering and the use of the compass in executing ornaments (ibid:338, 345) to the Near East and suggests that this might date to the Kamares period when both the standing of Cretan craftspeople and contact between the two regions was in the ascendancy (ibid:339).

In contrast to the Aegean, my research into BA Anatolian metal vessels has shown that while there is a considerable amount of material, very little of it has been published in any form of catalogue. All of the vessels found at Troy are published as part of the early excavation reports by Schliemann (1881) and Schmidt (1902), with details of find context, dimensions and construction. Some 48 vessels are photographed and briefly described in Toker & Öztürk's publication (1992) for the Museum of Anatolian Civilisations in Ankara, and a selection of the most impressive pieces from Troy are featured along with other items of the Troy 'treasures' in Antonova et al. (1996). However, as both of these were produced primarily to illustrate museum exhibits it is not surprising that neither includes a typology. Neither these nor the Aegean studies have really considered the depositional contexts of metal vessels, for example, why people chose to destroy (crush) or dispose of them in these ways, what they may have contained or how they were used. Nor have they considered why certain shapes,



decorations and techniques were chosen over others in their production, or why the imperative to bury them was stronger than that of keeping these precious items in circulation in the land of the living. These actions are the result of intentional behaviour, but what these actions meant and how they fitted into the way in which these societies functioned has not been considered.

In order to approach these questions in an holistic way for both the regions covered by this study, a combined typology is a necessary baseline. The only work that has approached the issue of a typology for the Anatolian corpus is a masters dissertation (Erdem 1998) to which I was able to gain access whilst conducting field research in Ankara in June 2000. Erdem's typology was devised for the 139 vessels in his catalogue, which includes some of the metal vessels of only the central area of Anatolia. Consequently, although his scheme works well for what it covers, it cannot allow for the nearly 200 additional vessels and components which I have catalogued including material from Troy and the Troad, Demircihöyük, further items from Alaca Höyük, Horoztepe, Tarsus and Merzifon-Göller/Oymağaç as well as the vessels found on the Ulu Burun and Cape Gelidonya shipwrecks and various unprovenanced pieces. In view of the unevenness of the typological information available, and because part of the aim of my study is to compare the corpora of the two areas, it has been necessary for me to devise a single typology for both. This can be found in Appendix 1 and incorporates a concordance with Matthäus' and Branigan's types and Davis' catalogue numbers. The following is intended by way of explanation of the rationale behind the typology I have devised.

## 2.2 Typology

My first step was to take an overview of the corpus of the two areas and establish the basic classes (jug, cup, bowl, jar, etc.) that were represented. It might seem that this basic stage of the differentiation process would follow very obviously, and in the majority of cases it was. This was because their overall form, determined by the function-specific components that made up the vessel, made certain uses for them more or less likely. For example, the exit hole in a rhyton would render its use as a drinking vessel or storage container impractical and therefore improbable. Similarly, while other vessels such as small bowls and cups could have had a secondary use as scoops, it is unlikely that a spoon or ladle, with its shallow bowl and long handle suited for reaching into deeper vessels, would have been used primarily for drinking.



This point highlights two issues that are problematic and yet central to this first stage in the delineation of the basic classes: function and size. Firstly, we cannot be sure in all cases of the original purpose(s) of some of the vessels, and it is necessary to guard against imposing modern-day interpretations on the material. Nevertheless, it is necessary to accept that on a fundamental level, function drives the basic form that we decide on when making and using an object such as a vessel, but that is not to say that this form cannot be embellished and experimented with, as seems to be the case particularly with metal vessels of this period. Another consideration is that some classes of vessel, e.g. bowls, could, and may well have been used for more than one purpose, e.g. food presentation as well as liquid drinking. With respect to the construction of a typology this presents an issue that needs to be clarified as the functional lines seem blurred.

The latter points lead to the second issue of size and what part it can and should play in the delineation of vessel classes. On the one hand, size was not a key deciding factor in the assignment of, and differentiation between, certain closed shapes such as jars, bottles, jugs and rhyta. These were clearly discernable as such, not because of a similarity in size, but because of a clear regularity in their principal function-related characteristics. In the case of bottles, for example, irrespective of capacity a small aperture, which would be simple to close and therefore inhibit the escape of the contents, would be most germane. In this case I believe that the size of the vessel related more to the type of contents than to their basic function and hence how they should be categorised.

Size was a more central issue principally in separating open vessels into cup, bowl and basin types. The issues here revolve around questions such as when does a vessel cease to be perceived as a cup and become a bowl, and equally, where are the lines between a bowl, a basin, a cauldron and a krater? Inevitably, this leads us back to taking a position on the primary, although perhaps not originally sole, purpose of the classes of vessel. Consequently, this element of artificiality is intrinsic and to an extent unavoidable but that is not to say that it has to prevent the devising of a workable and meaningful typology. Rather it is an issue to be kept in mind when making and using this or any other typology.



With these general points in mind, the next question to be addressed was how best to construct a new combined typology that incorporated previous work, specifically Matthäus<sup>2</sup>, that was not unwieldy in size and yet still statistically viable. Another consideration was the wide temporal and geographic range of the material and how the typology thus needed to be sufficiently fine-grained to reflect significant formal differences within basic classes, but not so micro-divided as to obscure or render misleading patterns perceived through the diachronic and spatial mapping of types. Also, while most classes of vessel are represented in both regions, the often prominent formal and stylistic differences in the corpora of the two regions are sufficient to make it impossible, in general, to fit the vessels of one corpus neatly into types pre-established for the other. At the same time it was necessary to integrate Matthäus' typology with the one I had devised for Anatolia rather than just tacking one on the end of the other.

The principal issue here, then, was to reassess the Aegean typology in the light of the new Anatolian material and then, where necessary, regroup or separate types in order to reflect the points of fundamental similarity and divergence in the material. My starting point for this was to match Branigan's few types with my own, which was quite straightforward as they were only a few and mostly represented types found in Anatolia. The next stage was to perform a similar exercise with the individual entries of Davis' catalogue and, where no type pre-existed that suited, create new ones under the appropriate vessel class headings. I sought those vessels in Matthäus' catalogue which correlate with examples in Davis' and my own, and by this means identified the classes and types of Aegean vessels which needed to be added to my combined typology. These included whole classes of vessel e.g. kraters, amphorae, ewers and lamps, not known from the Anatolian corpus or the Aegean precious metal corpus, as well as different types of pans, jugs, bowls, basins and cups not found in Anatolia. However, aside from additional material which needed to be incorporated it became apparent that a fundamental difference existed between Matthäus' and my own approach to assigning types. He subdivides types more, usually on the basis of fine detail such as the kind of handle applied (his type 7b) or tapering foot versus straight foot alone (his type 8). In general, my rationale is that either a significantly different body shape and/or a

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<sup>2</sup> As previously stated Davis had no typology and Branigan covered only a very few vessels in a very basic way as the main thrust of his work concerned tools, weapons and jewellery/toilet items.



combination of two or more differences are needed, including perhaps a construction technique used, to warrant the creation of a separate type.

Hence, I have correlated both his types 7 and 8 under my type 52a, as the only differences between them are that the bottom of the feet on the type 7 taper to a point, and the handles are set vertically whereas on the type 8 they are horizontal. On the other hand, I have kept his type 1 cauldron separate (my type 49a), as I believe it represents a quite different way of conceiving and constructing a cauldron. Similarly, in the case of cups with wish-bone handles (my type 12j, Matthäus types 36 & 37a), it is the latter which is the key diagnostic, outweighing the fact that the body of the cup is deeper, in order to create a type represented by a few examples rather than several sub-types each represented by one example. The same is the case with the spouted cups (my type 14, Matthäus types 34 & 35), the two handled bowls (my type 15e, Matthäus types 46 & 54), conical bowls (my type 18, Matthäus types 48 & 51), bowls with straight upward slanting handle (my type 20c, Matthäus types 37d & e & 55), shallow bowls with offset base (my type 16d, Matthäus types 50 & 53), pan with tubular handle (my type 27b, Matthäus types 13,14 & 15) and so forth. In this way I aim to avoid the kind of micro-subdivision that can lead to the existence of many types with only one example within each, which can be unhelpful and statistically misleading. Because of the low level diversity seen in Anatolian material, often just a detail in the handle shape, spout length or decoration differing, it would have been easy to apply a scheme similar to that of Matthäus'. However, I chose to try and extract what the formal common denominators were in the body of material and group those vessels which were fundamentally similar, noting in the description what variations in detail were possible.

Having outlined the methodology that informed the construction of my typology, it is necessary to finish by noting some specific points concerning certain of the classes and types of vessels, and the factors on which their delineation is based. Turning first to cups and their differentiation from bowls, it was necessary to draw a line in the sand partly on the basis of size. I felt a diameter of c.10cms was probably the feasible maximum for a cup, that is, a vessel for drinking small to medium amounts of liquid from, and in this respect I differ very little from both Davis and Matthäus. However, even when differentiating between these types it was a combination of shape, size and added components which I believe would have dictated aspects of their likely original function. For example, a very wide rim would have made drinking from such a vessel



impractical, unless a drinking tube was used, and there is no record of these having been found in the same context as the basins, although it is possible organic ones existed. However, size was less of a determining factor in the case of more ostentatious vessels such as chalices/goblets, which seem to have been made as individual, perhaps unique, pieces, partly because of the more socially ritualised context in which they were probably used.

For the purposes of this typology, bowls are generally speaking defined as handleless in order to differentiate them from basins and pans. Inevitably, there have to be exceptions, as in the case of types 15e, 22d and 24a, but here both the basic form and size was sufficiently compatible with other bowl types (e.g. 16d, 22b), to class them as such rather than basins and pans. The latter amount to only four vessels in total, three of which come from the same site (Pylos), and one of which is unique in both concept and detail (type 24a). Further reasons for my separating bowls from basins relate specifically to the quite consistent characteristics of the latter. Firstly, their diameter seems to fall between a fairly standardised 30-39cms. Secondly, the vessels' proportions of height (very shallow) to diameter (broad) is consistent across all examples. Thirdly, the loop handle and the wide rim appear to be formal features which were stylistically fixed for this class of vessel. It is also worth noting that all examples are bronze and principally found on Crete (16 examples), although there are also four from Mycenae, two from Thebes, one each from Asine and Rhodes. Another criterion in the ascription of vessels as bowls is that they range between approximately 10-20cms in diameter. Apart from this they can be shallower than some of the cups. The shallowest cups may seem more like saucers, but contra Davis, I have not called them this as I feel this puts too much of a modern functional gloss on what they were originally used for, and it is possible that some may have been used for drinking.

Three vessels from Alaca (cat.nos.9, 31, 56) follow the basic formal principles of the Aegean basins and it is because of this, and the fact that they are significantly larger than most bowls (20/21cms diameter), that I have classed them as basins. It is their similarity in proportions, open-ness and a single handle that was decisive in their categorisation.

Identical but much smaller versions of the Aegean basins have been called 'tea cups' by Davis. Again, while I understand that this term may have been used in order to be



immediately evocative of their shape, I feel this puts too much of a modern functional twist on these vessels, and instead I refer to them as a form of shallow basin noting that they are significantly smaller. All of the examples are from the mainland and between 10.5-11.5cms in diameter, but despite their size similarity to bowls, I have not classed them as such as I believe they were made to be miniatures of the stylistically identical larger basins. Apart from two bronze examples from Mycenae which have spouts (Matthäus type 34), they are all made in silver with gold and I believe this explains their size. In any case, the combination of proportions, components and style of both the large and small versions of this vessel seem to have been restricted to this type, without variation by means of the addition of other components such as a foot or another handle, or by altering the basic ratio of depth to diameter. Rim and/or handle decoration was the only stylistic variation. Two 'broad-rimmed cups' (Matthäus type 34) have a spout but perhaps those were used for a different purpose to the basins, for libations for example.

This leaves pans and how they differ on the one hand from basins, and on the other from cauldrons. I have identified as pans vessels which are shallow and wide, with a broad rim, usually a flat base and one straight handle set at the rim either horizontally or towards the vertical. The handles are almost invariably tubular or rectangular in section and appear singly, with the possible addition of a steadying lug-like handle on the opposite side of the rim. Basins, as previously noted, have similar diameter to depth proportions as pans but whereas the former's diameter is in the region of 20cms, pans are usually in excess of 30cms. The handles are also quite different, not just stylistically, but I believe also functionally; being quite long they would have been well suited, more so than those on basins, for placing the vessel over, and retrieving it from, a fire. With respect to cauldrons, while some types are quite shallow, with wider, open mouths, they are far deeper than pans, (generally more closed) and of a larger diameter, usually in excess of 45cms. The handles are also almost invariably of the short, thick vertical loop type set on or near the rim. In antiquity pans and cauldrons may have been used for similar purposes, albeit for different quantities or perhaps for different stages in the cooking process, or even for different substances (solids/liquids). Pans may have been used for frying food before stewing it in a cauldron, for example, which, being more closed, would have been better at retaining liquid due to the smaller open surface area to volume. For this reason I was initially unsure about Matthäus' ascription of his type 4 as cauldrons as their proportions are more pan-like, but in terms of handles and



size they belong with the cauldrons. However, as his type 4b has three short feet I felt that they were more related to tripod cauldrons than pans.

A note also needs to be made regarding Matthäus' type 37a-e which he classes as forms of cup, but which I feel is something of a mixed bag. The main difference with all of these is the handle type and placement, apart from his 37c which is much more shallow and in shape like my type 12i cups. His type 37a has a wishbone handle, 37b a long horizontal one, 37c a loop handle, and 37d and 37e a straight upwards slanting one. However, on closer examination, the body shape is quite different in each case, shallower/deeper, rounder/carinated so that they do not belong together as related types either formally or stylistically. As mentioned, his 37a and 37c, despite their size, have been typed by me as cups (types 12j and 12i respectively) because of their similarity to other examples which are smaller. They may have been used as bowls or perhaps were show piece cups made on a grander scale than other examples of their type. I have reclassified his 37b, 37d and 37e as bowls (my types 15f, and 20c respectively) partly because of their size, but also because their body shape and handle type give the impression of a serving bowl or cooking pot other than a drinking cup.

As noted in Chapter 1, I have included in my catalogue not only complete and damaged/partial vessels, but also vessel components and fragments e.g. spouts, handles, rim fragments etc. In terms of the typology, where it is possible to match these with the types of vessels to which they originally belonged I have included them under the same type number. However, there are a few cases such as the tubular spout (type 67a) which is not known so far from any intact vessel from the Aegean or Anatolia, and which therefore, I have included in a type on its own, until such time as a vessel type is found which it matches. It is also important to include such a piece as it indicates the existence in antiquity of a type that has not survived and thus hints that we do not have the entire corpus yet. The same is true of sieve/strainer fragment (type 67f) and also the various forms of rim fragment (type 67c). In the case of the tripod fragments (type 67d) these have been classed separately as no entire tripod has been found in the two areas under discussion so it may be that either there were several different versions or that they were not produced here at all. This leaves the fragments from unidentified vessels (type 67e) which, in line with Matthäus, I decided to include, as each piece represents a separate vessel and I believe should therefore be included in order to give a fuller picture of the amount of vessels that would have existed in antiquity.



Finally with respect to nomenclature, while I have avoided anachronistic names in general, I have kept those previously given to certain classes of vessel, for example, krater, amphora, ewer, rhyton. This is because these terms have for a long time now been widely used and are readily recognisable to most users of a typology.

Having devised a common scheme for categorising the data, the second component of my approach to this material has been a consideration of the various areas of theoretical thought that relate to this form of material culture, and how they might be used to elucidate some of the questions that have not to date been asked of it. The aim of the following exploration is to expand the ways that we think about metal vessels and ceramic skeuomorphs, moving their examination away from the art historical to the social, in order to resituate them in the contexts in which they were made and used.

## **2.3 Theoretical approach**

In Chapter 1 I gave an overview of my theoretical orientation, highlighting why metal vessels and skeuomorphs are particularly fertile repositories of social information, and suggesting some of the directions in which we can extend our thinking about these aspects of ancient material culture. Here I consider some theoretical models which can contribute to an understanding of how these objects acquired social meanings, and of what the latter consisted. In the subsequent section (2.4) I explore the concept of skeuomorphism specifically, and how one area of theoretical thought, innovation, has a particular bearing on this area study.

### **2.3.1 Innovation - New Tricks from Old Traditions**

The study of technological change in recent years has been characterised by a shift in emphasis from needs/benefits-driven explanations of what changed, when and its social impact (Childe 1944; Singer et al.1954), to ones that encompass the role of individual choice within a socio-cultural framework (van der Leeuw 1993). At the heart of van der Leeuw's theory is the precept that any human behaviour, technological included, is learnt and developed in a social framework, and that techniques should therefore be studied from the point of view of a dynamic relationship between the raw material, energy and the forces and social relations of production (ibid:240). As the technical and social spheres exist in symbiosis, changes in one should be detectable in the other. He therefore argues that culture is the principal determining factor in the techniques used in



a society, and that the choices made by a craftsperson express and reinforce the cultural concepts and idioms with which he has been socialised (cf. Hoffman & Dobres 1999:216). Or put another way, it is the socially constructed ideas of appropriate designs and forms that inform the decision and choices made, and relate a society's view of ethics, the way things are done, to how they should look (aesthetics). Therefore a change in the appearance of an object which is created by a change in technique may indicate a shift in the social context. Given a background knowledge of other contemporary socio-cultural political and economic changes, we can perhaps see why this happened, and how the new techniques and objects met the underlying social objectives. In other words, the study of techniques/technology "becomes a convenient and broad avenue to understanding the organisational and representational principles underlying the society which uses them." (van der Leeuw 1993:240). Equally, the non-uptake of inventions, which is also an expression of choice, may also be informative about ancient societies.

Lemonnier similarly highlights how the social context, socially perceived goals and ways of doing things are at the heart of the innovation adoption/rejection process (1993). He outlines how innovations in techniques and the products thereof can have a symbolic function in society and also be signifiers of changes in this sphere. As both the actions and the products of these actions are the result of human thoughts and concepts, both are imbued with meaning and therefore symbolic. For example, an ethnographic study of the decorative techniques used on pottery produced by two groups in north Cameroon (David et al. 1988), echoes Lemonnier's view. This study concludes that the decorative techniques and styles chosen refer to and materialise belief complexes prevalent in these societies, and are a means by which society implants and reinforces its values in the individual.

The level at which decisions regarding technological choices and innovations are made, and how these are transmitted, has been studied from a neo-evolutionist perspective by Shennan (1989). Drawing on the work of Cavalli-Sforza and Feldman (1981) he outlines the different sources of cultural variation and modes of transmission (random error, guided variation, indirect bias, frequency-dependent bias etc.), and how these affect what is transmitted and the rate of cultural change. Of these I find indirect bias particularly informative with respect to skeuomorphism in general and the process of emulation in particular. It refers to a situation in which an object, person or action is



imitated on the basis that it is already being used as a model by others or for other purposes and is therefore already proved to be locally successful. Thus in a 'success breeds success' manner other traits of the successful model are subsequently or simultaneously imitated. From an archaeological point of view this theory provides a framework for identifying the process of emulation at work in the past in the form of associated complexes of objects and practices that appear to be associated with higher status individuals. Shennan's study also makes the interesting observation that it is usually these individuals who possess a key role in existing social networks, that is, within traditional forms of power, who play a decisive part in the group's determination of whether to adopt a new technology or not. An interesting extension of this is Bargatzky's observation that an outsider-innovator and a powerful person within a society, cooperate to introduce an innovation because both, for different reasons, face minimal, if any, social or political risks (1989). A possible example of this may have been the interface between the elites of the Shaft Graves and the artisans who made the contents of their tombs.

Thus in summary "technologies depend largely on cultural attitudes about right and wrong ways to make and use things....Technological choices are socially constructed selections between valid functional alternatives, involving concepts, symbols and social representations." (Nikolaidou 1997:177). Therefore an analysis of the choices made and options discounted by, for example, the makers of skeuomorphs can tell us much about their view of what constituted 'metalness', about prevailing stylistic idioms of the period and also the social changes that were inextricably linked to these innovations.

A final aspect that needs to be considered concerns what constraints may be exerted on available choices and the propensity to experiment (Torrence & van der Leeuw 1989:10ff). Primary is the consideration that an object must be fit for its practical purpose, that is, spouts must still pour and handles be able to lift. Equally, its ideological function may bound experimentation where the object must include certain recognised components that make it fit into certain contexts or use by certain people or to achieve particular social goals. These might include the perceived level of quality of material and/or workmanship, the object's visual references to other classes of known objects or highly valued 'exotic' pieces. Over-experimentation here might render the resultant objects not recognisable for their intended use because of the dilution or over-elaboration of the vital components. This might be an alternative way of interpreting



unique (and sometimes extraordinary) examples of metal vessels and skeuomorphs: if they did not quite hit the perceptual, idiomatic mark in antiquity then perhaps this is why their form and style was not replicated. Alternatively such unique pieces could have been due to their being required for a highly specific purpose or their projected owners' desire for exclusivity.

Torrence and van de Leeuw's note that "Innovation exists by virtue of an extant tradition to which it contributes something new." (ibid:5). Consequently, tradition may be another inhibiting factor to experimentation, either in terms of ideas about the form or the way things are made. Here the pressure of the established way of executing actions is stronger than the push for the new. Similarly, the prevailing visual idiom may determine that visual experimentation will develop in degrees as very outlandish designs may go against pre-existing notions of how various objects 'should' look, even for opinion and style leaders in a society who may have been first to validate new ideas by their acceptance of and desire for them. Thus we could expect in the early history of a visually-based innovation that only some of the possible formal and decorative options would be employed e.g. just the colour, sheen, shape or details, or perhaps a combination of just a couple of the above. Thus the resultant objects of a cultural orbit can develop a technical style (Lechtman 1977,1999) which is seen as appropriate for usage in proscribed circumstances by different groups within that society.

However, the concept of technology, and therefore innovation, is not confined to technical actions and the resultant objects, but also extends to the behaviour surrounding and incorporating their use. As Dobres and Hoffman have observed:"technology is a pervasive and powerful complex of mutually reinforcing socio-material practices structured by self- and group interests, expressions of agency, identity and affiliation, cultural ways of comprehending and acting on the world, practical and esoteric knowledge, symbolic representations, and skill. These dynamics come together to create meaningful arenas in which humans simultaneously engage with each other and with their material world." (1999:2). The following section explores how such arenas may be created and the role of innovative behaviour and material culture within them.

### **2.3.2 Social Agendas - Promoting the Self through the Creation of Prestige**

In the modern world, social differentiation is so widely and well established, and based largely on capitalist foundations, that it is comparatively easy to access domains of



competitive self-promotion. For the Bronze Age, models centering on agricultural surplus have been offered as explanations for the development of socio-political hierarchies (Halstead 1995, Renfrew 1972). While this might be a necessary prerequisite for economic expansion, the development and resultant nature of a stratified society is also contingent on the relations between social agents and how they acquire and use objects. Recent avenues of thought have explored how social competition in pre-industrial societies may have been engendered and perpetuated in the pursuit of individual and/or group prestige.

Several studies have posited the acquisition and guarding of knowledge and expertise as one means (Broodbank 1993; Budd & Taylor 1995; Helms 1988, 1993; Nakou 1995). This could take the form of knowledge of the exotic such as the world outside one's community including knowledge of where and how desirable commodities can be obtained (Broodbank 2000; Helms 1993), or knowledge of specialised techniques (Appadurai 1996:42; Nicklin 1971:33-34; Renfrew 1993). As many of these studies suggest, knowledge as a valuable commodity would have been guarded and access to it restricted, creating differentials of prestige and hence power. For example, Nakou observes that an overview of metal provenance studies reveals quite a clear pattern of exploitation at a few Aegean sources which are removed from habitation sites. From this, and her accumulated evidence for the symbolic and social significance of metals at a time of emerging social differentiation in the Aegean, Nakou hypothesises that the sites used for various metallurgical processes were chosen for their remoteness and therefore general inaccessibility to the majority of people, an opinion with which Stos-Gale concurs (1993:124-125).

In this connection, the low visibility of both pottery and metal production contexts in the EBA Aegean are also suggestive. The only evidence we have of metal production include a few small crucibles, slag heaps (near ore sources and occasionally in settlement contexts) as well as a fairly large corpus of tools (Branigan 1974; McGeehan-Liritzis 1983). However, these tools would not have revealed the secrets of metal making techniques to the uninitiated as their use would have required special knowledge in itself. In this way, the few who established access to these sites could control the circulation not only of metal objects, but also, more importantly, the technical knowledge of the processes involved in transforming ores into culturally significant objects. This secrecy would not only have enhanced the prestige of those



with access to this knowledge, but also increased the magical aura that most likely already enveloped the alchemic transformation of rock into a shining dagger or vessel, an aspect discussed by Budd and Taylor (1995).

Haggis has proposed that a similar dynamic can be observed in an aspect of EBA Aegean pottery, the EM I chalice (1997). He takes as the template for his model Broodbank's (1993) hypothesis regarding the economic and social importance of the Erimonisia during the period of the Keros-Syros culture (2700-2300 cal.). The social interpretation that he draws is that of a dynamic of competing emerging elites in north Cretan coastal communities, who gain power and prestige through their differential access to, and knowledge of the extra-Cretan world. He proposes that they expressed this through the symbolic and ritual manipulation of certain classes of object such as the chalice, and that their ascendancy over communities in the south of the island is suggested by the time lag in the appearance there of such ceramic symbols of prestige. Thus in both Aegean pottery and early metallurgy it is possible to detect a situation whereby the control of knowledge, manipulation of material objects and the emergence of elites existed in a reflexive and spiralling relationship of "intensification of differentiation, exclusion and power." (Broodbank 1993:326). This ongoing process would have enhanced the status of individuals and accrued meaning, value and prestige to the special objects they wielded.

However, it may be possible to draw closer still to the means by which these objects gained meaning and value, if we consider the types of action surrounding and involving them in such arenas of social competition. Appadurai (1996) has described the latter as "tournaments of value" which involve the enhancement of status through rivalry and emulation practices, and revolve around controlling the circulation of, and therefore ability to own and use appropriate items of status expression. Such tournaments are predicated on the knowledge of, ability to acquire and consume prestige, often 'exotic' items in ways that fit with the cultural idioms of the society (ibid:21ff). Objects brought in from outside the general sphere of knowledge of a community may have had a long journey through unknown places, have been owned by several people and thus be seen as having a 'biography' (ibid:41-42). By definition exotic objects used would originate at a distance from the loci of these theatres of rivalry, with this situation providing yet another opportunity for social enhancement through the demonstration of a skilful ability to establish connections with such sources (Helms 1993:4ff; cf. Hoffman &



Dobres 1999:219). In terms of the archaeological visibility of such practices, the idiosyncratic treatment of material culture can be good indicators. In particular this may take the form of conspicuous consumption through the wholesale destruction of prestige goods (e.g. at Dhaskalio-Kavos; Broodbank 1993:325), and the stockpiling of valued items of varied media and origins (e.g. Mycenae Shaft Graves and Alaca royal Tombs; also cf. Engard 1989; Both of these are more fully covered in Chapter 8). Additionally, experimentation and the elaboration of such objects through the combination and/or reference to different valued items and media in one object, may also be an indication of attempts at value enhancement aimed at meeting an inflationary spiral of demand for novel symbols of prestige (Broodbank 1993:166).

The act of intentionally destroying valued items is a particularly effective means of status creation and maintenance because of its symbolic resonance. Their removal from circulation, often in highly ritualised contexts, may represent the objects' death (Hoffman 1999:105ff). With specific reference to the material covered by the present study, particularly good examples of the intentional damage/ritual death of objects is found in the graves at Alaca, Horoztepe and Mahmatlar in the north central area of Anatolia. Here numerous metal objects, including many of the vessels, were found crushed or folded in an apparently very careful manner, rendering them no longer capable of use and suggesting the closure of their life. These objects are symbols of power, perhaps previously owned by other powerful people, and by association, whoever has jurisdiction over their fate must be at least equally potent (Engard 1989:143ff). As Hoffman notes, regarding his own experience of similar acts of intentional damage "By breaking things, we gained power - as if the object itself contained a social energy imparted to it by its maker and its owner." (1999:108). Such intentional destruction also exists in a reflexive relationship with innovation as it can at once maintain tradition and also provide opportunities for challenging the status quo, potentially leading to change (ibid:107). Furthermore, these acts often have a collaborative group nature, are performed according to a certain style of action that helps define the participants' "world and their relationships to one another." (ibid:110), and often include the consumption of alcohol or other intoxicants and mind-altering substances (ibid:107).

That alcohol is consumed during these acts is not surprising given its undoubted contribution to the highly charged atmosphere of such events, and certainly, the mood-



and perception- altering qualities of alcohol were known early, as indicated by the mention of wine intoxicating gods in Hittite myths (Gorny 1996:151-2). This quality, its novelty and rarity would have made it an integral component in ancient arenas of elite competition, and thus the subject of alcohol in the ancient world has a direct bearing on this thesis through, I propose, its connection with metal vessels and situations of ostentatious display (see further Chapter 9). However, alcohol also performed a variety of complex roles for both emerging and established elites, as I outline in Chapter 3. The process of competitive drinking and feasting engendered by the knowledge of alcohol is widely identified in chiefdom type societies (Dietler 1990:384-85; Dietler & Hayden 2001). Alcohol is both a transformed and perception-transforming substance and consequently, the possession and control of its production and effects set the individual/group apart from the rest of their society. As Joffe observes, its transformative properties meant that it was ideally suited to an important role in ritual, competitive feasting and other power-diffusion mechanisms, and as such it played an important part in the emergence of complex, hierarchical societies (1998:297-299).

However, the question arises as to why and how feasts are particularly effective in articulating social relations. Apart from their innate conviviality, which oils the wheels for important social transactions, they are often a ritualised activity, and consequently perceptually set apart from mundane meals creating an "experience of 'condensed meaning' " (Dietler & Hayden 2001:3-4). Furthermore, they are often a central element of rite of passage ceremonies and initiations (ibid:9), and serve to instigate and reinforce social categories (ibid:10). They thus provide opportunities for individuals to become, and maintain their position as, influential members of society, with the competitive aspect of feasts providing opportunities for the realignment of alliances and patron-client allegiances (ibid:17). They are thus a highly political and socially transformative practice which enable the "conversion of economic and symbolic capital toward a wide variety of culturally appropriate political goals." (ibid:13).

In terms of archaeological visibility, feasts produce large amounts of distinctive refuse and are often associated with very visible structures (ibid:8-9). However, we can perhaps detect their existence in antiquity through other means. In another study Dietler links the vessels, contents and behaviour surrounding their use to the emergence of social complexity (1990). In addition to knowing about wine and being able to acquire



it he observes that its etiquette, that is, how to manipulate it socially, is an important component of socio-political development. He proposes that a central part of this was the associated paraphernalia e.g. wine sets of jugs, cups, goblets/chalices, that consequently became high status markers owned exclusively by such elites (ibid:395ff). A similar conjunction has been proposed by Sherratt for the beginnings of alcohol production and consumption in prehistoric Europe (1987a). This study primarily focuses on developments in the Beaker culture of late Neolithic/early Chalcolithic Europe; it outlines a model of how alcohol and the idea of its social consumption as a marker of status, spread in tandem with the kit necessary for the manipulation of liquids from the Aegean and Anatolia. Perhaps most pertinent to the current study, Sherratt notes that the various drinking sets found both in the Aegean/Anatolia area and in temperate Europe were inspired by metal prototypes.

Thus the diacritical role of alcohol, together with the vessels associated with them, were a means by which elites could further distinguish and distance themselves from the rest of society. Dietler observes that alcohol "is a medium that allows surplus agriculture to be converted into labour, prestige, 'social credit', political power, bride wealth, or durable valuables. (1990:369-70). Elites controlled the production, distribution and thereby consumption of alcohol, and thus created a desire and demand for it, the satisfying of which they controlled. They were able to control who was awarded access to this emblem of status and thereby strengthened their role as provider of reward and largesse and reinforced their prerogatives. Along with its use in ritual, its link with elites associated with divine rulership and mood transforming properties, alcohol is a powerful means of legitimising elite power by linking agricultural production, belief systems and the development of socio-political structures.

In summary, this discussion has highlighted the role of certain forms of innovative behaviour in the process of social differentiation and the maintenance of status, and how this promotes the acquisition of valued objects which in turn gain further meaning through their involvement in these situations. In turn they come to be seen as appropriate and commensurate, ultimately becoming involved in a reflexive relationship with the skilled crafting of events. This dynamic demonstrates the role of social agency and how individuals and social structures interact, that is, how Bourdieu's concept of the 'habitus' determines choices made about both the appropriateness of material culture and how it is used (1977). Dobres and Hoffman note that the role, place, and personal



agendas of the technical agents that made these objects result in "the interplay of technical acts, products and knowledge can work to promote the self-interested agendas of technical agents in the face of larger (that is, constraining) social and material structures in which all technical systems are situated." (1999:9). In the next section I return the discussion to the topic of innovation with specific reference to skeuomorphism, and how shifting our view of this phenomenon in this direction may help elucidate questions of social dynamics.

#### **2.4.1 Skeuomorphism as a Window onto Past Societies**

*"When a potter, working in red clay....fashions clay vessels so that.....they resemble metalwork or leather work or basketry....his style is 'skeuomorphic'" (Myers 1930:464)*

*"Skeuomorphism....often gives us a glimpse into productive activities and artistic media of which no direct evidence survives." (Childe 1956:12-14)*

As the above quotes indicate, the resemblance in clay of other media has been widely noted for some time now (Schuchhardt 1909; Evans 1921-35), and its part in the stylistic and formal development of ceramics in general has been acknowledged (Davis 1977:60,71,89; Singer et al. 1954; Traschler 1965a, 1965b). Childe, quoted above, acknowledged the potential that the study of skeuomorphism has to offer, proposing that we are able to reconstruct, if only in words and pictures, some of these vanished objects from antiquity and the techniques by which they were produced through a study of skeuomorphism. Such a study is also a particularly interesting and appropriate means of gaining an understanding of prehistoric societies, as it allows us to focus on the material culture without necessitating recourse to textual or iconographic evidence. Nevertheless, the wider social implications of this phenomenon have rarely been addressed, with its occurrence merely being noted in overall stylistic descriptions of individual vessels (Betancourt 1985:80,140; Evans 1921-35 Vol.I: 245, 252; Vol. II: 426-7, 508-10).

Explorations of its occurrence and meaning have been restricted on the one hand by positivist-inspired objections to its validity as an area of study, and on the other by a tendency to ascribe its occurrence to functional explanations. Vickers notes that the former has its philosophical roots in the empirical axiom that we can only measure and interpret these physical marks of the past that survive in the present (1986a:221). A



consequence of adopting this approach would be that much of the material culture that formed the fabric of everyday life, as well as the ideas and strategies of both producers and consumers, are beyond archaeological resurrection, making for a particularly barren, de-personalised version of the past. Nor, as Vickers asserts, need the theoretical foundations of a study of skeuomorphism be any less firm or 'scientific' than empirically-derived data if extrapolation and inference, both of which are in any case drawn on widely in archaeological studies, are used carefully (1989:49). Furthermore, I propose that recent developments in archaeological theory, particularly that pertaining to innovation, and a shift in the way we conceive skeuomorphism, can facilitate the extraction of more and better quality information regarding their social significance (see sections 2.4.2 below).

Probably the earliest examination of this phenomenon that went beyond just noting the similarity of form and appearance of skeuomorphs, but which nevertheless had a functionalist orientation, was that by Schuchhardt (1909). His study of Neolithic artifacts from north European megalithic tombs, which drew on observations made by contemporary ethnologists such as Steinen, Ehrenreich, Schmidt and Holmes, noted that various geometric forms of, and designs on, pottery were abstracts of organic styles and basket weaving techniques. Through these skeuomorphs he constructed a case for recognising the form and construction methods of organic containers that have not survived, and proposed that clay was originally just used to make basket containers watertight, with clay versions reflecting basket shape and design developing from this. He concluded that most ceramic traditions first developed from natural materials which originally limited the possible shapes and decorations and that therefore practical concerns rather than aesthetic ones were being met by this process.

A similar functionalist interpretation has been promoted by others to explain imitative surface finishes on pottery. For example, speaking of the large corded storage jars at Knossos Singer et al. (1954:400) states they were "no doubt to give added strength and to provide slings to secure their many handles." and referring to a surface finish with metallic appearance he states: "The burnishing of vessels has often been attributed to an aesthetic motive, but it is a method of making pottery non-porous, and it is likely that this was usually the pottery's purpose." (1954:402). However, while burnishing is often used for this reason, the functionalist interpretation does not account satisfactorily for all instances of it, for example, when it is extensively used on fine wares and with



certain colours, nor for skeuomorphs in general, for several reasons. Firstly, from my discussions and practice with potters it transpires that certain metallic details in pots such as thin walls, arcading and ribbing are at best functionless and at worst a source of weakness. Secondly, often the individual elements which combine to create a metallic appearance in many skeuomorphs (see further Chapter 8) can have no practical motivation behind their creation as they are purely visual treatments. Thirdly, most examples of skeuomorphs are not heavy duty domestic vessels, which may have required 'practical' features, but fine, light use table wares. Finally, a considerable amount of development time, skill and risk would have been involved in their production, for example, the very time consuming process of burnishing (Vitelli 1995:59) and certain complex firing processes to achieve metallic surface appearances like Vasiliki ware. These represent costs which may not have been so easily recoverable if these skeuomorphs were aimed at the same market as basic, 'practical' pots. In contrast I propose that metal skeuomorphs represented a cognitive and stylistic innovation stimulated by complex social changes, a point to which I return below. But perhaps an observation by Torrence and van de Leeuw goes some way to explaining this tendency to functional explanations of skeuomorphism. They note that changes in material culture style are "generally thought to have little significance for explaining changes in relevant aspects of human behavior" as compared to more obviously practical innovations that are usually related to notions of 'progress' (1989:4). However style, and the related concept of aesthetics, can be seen as being functional in the sense of effective as they can be used to achieve a variety of social imperatives including the formation and negotiation of social identities (Engard 1989; Fernandez 1973).

Recent years have seen the publication of more searching explorations of this phenomenon, largely conducted with regard to the ceramics of other periods and/or areas. They include Verhaeghe's study of medieval European ewers and aquamaniles (1989, 1991), Vickers and Gill's study of Classical Greek vases (1996), Raby's research on Samanid ceramics (1986), and Foster's study of influences on Minoan pottery (1989). While Foster does examine the nature and extent of inter-media influences with particular reference to the role of ceramic imitation during the Bronze Age, she does not investigate the social or cultural context of skeuomorphism. I have therefore chosen to focus briefly on the research of the first three above scholars in order to illustrate the direction that the study of skeuomorphism can take and the kinds of questions that it is uniquely placed to answer.



Verhaeghe's research (1989) has centered on clarifying the relationship between both metallurgists and potters and between different social levels of consumer in Medieval Europe. His approach to this aspect of material culture is in harmony with Appadurai's theoretical perspective on the life trajectories of, and dynamics between, commodities and other social and economic facets of the societies in which they are produced and consumed. His analysis of the ceramic ewers concludes that these items were not produced for the luxury end of the market, but were rather 'quality goods' aimed at the middle and lower middle classes of society. Interestingly, these ewers do not seem to have imitated the highest quality of metal ewer used by the upper classes but rather a more intermediate quality type. He believes this indicates that those who were less well off but by no means poor were trying to emulate the material culture of the class or two directly above them rather than the upper-most echelons of society who were in sumptuary terms beyond their reach. On another level, he sees the production of these ceramic ewers as evidence of an ongoing competitive dynamic between potters and metal-smiths, with the former actively trying to maintain their share of the quality goods market (1991:53, 56).

He has also concluded the latter interpretation from his study of Medieval metal and ceramic aquamaniles (1991), suggesting that the latter skeuomorphs effected a restructuring of the relative value systems. Originally the preserve of the upper echelon of European society, through an analysis of their subsequent distribution contexts Verhaeghe identifies a trickle-down effect during the 13<sup>th</sup> c. A.D. in the acquisition of metal aquamaniles by the two social strata beneath the upper-most elite. From both archaeological and textual evidence he identifies the metal versions as having been more expensive than their subsequent ceramic versions (ibid:48). A process of gradual popularisation and consequent loss of production quality is seen in the metal aquamaniles during the 13<sup>th</sup> and 14<sup>th</sup> centuries (ibid:48), both of which indicate a generally improved standard of living with more people being able to acquire these objects that were originally the preserve of the elite and upper nobility. It is within this context that the ceramic skeuomorphs of these aquamaniles appear. They indicate the existence of a market that was interested in acquiring products that reflected the contemporary improved standard of living (ibid:49), that was aware of higher social customs but which, although not sufficiently affluent to afford the most costly metal versions, were wealthy enough to buy "superfluous" ceramic products that through their metallic references were of a higher value than standard ceramic table wares



(ibid:51). The skeuomorphic aquamaniles thus did not emerge from an older pottery tradition, but were the direct result of a fashion for the metal prototypes, and therefore reflect a complex dynamic of processes of innovation, competition and social emulation amongst sub-elite social classes (1991:45,56). His research thus provides an interesting and pertinent precedent for the BA situation.

Vickers and Gill's extensive exploration of the influence of precious metals on painted pottery in the Classical Greek period (1996) has acted as an inspiration for, and influence on, my own research. One of the main purposes of their work has been to restore decorated ceramics and metals to their appropriate relative positions in the Classical Greek value system, as well as elucidate questions regarding the cultural context of these ceramics and notions of appropriateness. A central line of enquiry in both this work and others published separately by each of the authors (Vickers 1986b, 1989; Gill 1986), has been the identification of the different means by which skeuomorphism is expressed and what each of these originally represented. For example, in addition to relatively obvious representations of metal shapes in ceramic such as carination, rivets, ribbing and arcading, very thin walls, high looping and spool handles etc., they have constructed a strong case for identifying the types of metal used in the prototype in certain paint colours. Thus black paint represented silver, purple stood for copper and red denoted gold and from this they have proposed that red figure vases were copies of gold-inlaid silver vases, and that black figure represented silver-inlaid bronze vessels. In Chapter 8 I examine whether similar correspondences can be detected in BA skeuomorphs and also whether they can aid in filling some of the gaps in the metal vessel corpus. The next section considers how shifting the way we conceive metal skeuomorphs, to a position of their representing a cognitive and stylistic innovation, has a bearing on how we define and identify them and approach their study.

#### **2.4.2 Skeuomorphism as Innovation**

The above studies demonstrate that, rather than being aberrant or eccentric objects of merely passing interest, skeuomorphs were the result of considered action aimed at fulfilling a social role. As we have seen, clay had been used since the Neolithic to imitate other media (Schuchardt 1909), with the resulting objects perhaps having a higher relative value than their prototypes (Vitelli 1995:56-60). Thus skeuomorphism was not a new concept in the BA, but the innovative component of it in the EBA Aegean and Anatolia lies in the fact that potters, rather than referencing down or across



the scale to less or comparably valuable media, were now referencing up the relative value scale at metals. Whereas organic media were perhaps the socio-economic peers of clay, metal was costly, 'exotic' and probably less known or understood. A similar phenomenon is witnessed in particular kinds of contemporary stone skeuomorphs (Bevan 2001:305-307). This shift in inspiration was driven not only by the novelty factor, but also by the increasingly strong impulse to emulate. In turn the latter was part of a wider cognitive innovation, namely, the awareness of how certain classes of appropriate objects could be employed in establishing social differentiation.

However, as Torrence and van der Leeuw noted (1989), there can be a preoccupation in the study of an innovation with identifying definitely its earliest advent, that is origin, with little attempt at explaining its occurrence in terms of the wider contemporary social climate, the underlying socio-cultural imperatives or any subsequent knock-on effects (ibid:2-3). An inevitable path leading from adoption to progress is assumed. Such social evolutionary paradigms of innovation are deterministic, and revolved around the correlation that practical needs lead to functional change which equals progress. The role of cultural idioms, local circumstance and societies' worldviews in the decision to adopt an invention is often not considered (ibid:4). A second frequent problem is the predilection for studying innovations in function over those in style (ibid:4), with the latter often treated as the poor relation of function (Sørensen 1989), seen as it is as not practical/useful and therefore not directly contributing to 'progress'. However, this begs the question of what ancient societies perceived as needs and what was the 'practical' answer. For example, metal cups or their skeuomorphs may have been just as useful as ordinary ceramic ones for drinking from, but far more effective, that is 'practical', for the purpose of asserting and negotiating social identities.

If, then, documenting the definitively earliest forms of metallic skeuomorphs is a redundant line of enquiry, so too then is the chicken or egg argument which seems traditionally to govern the identification of skeuomorphs. The perennial positivist/empiricist objection proposed for this area of study is the supposed prerequisite to identify metal prototypes that predate the ceramic version (Branigan 1974:136). In my view this argument is flawed in two respects. Firstly, it ignores the practice of metal recycling in antiquity (Sayre et al. 1995), which would result in only the ceramic reflections of certain forms surviving as in the case, perhaps, of MH ceramics. Secondly, it ignores the possibility that potters did not necessarily feel the



need, have the ability, or choose to copy slavishly particular metal vessels. I suggest in Chapter 8 that an example of this is EM II Vasiliki ware, which evokes the surface appearance of copper/bronze without aping other formal aspects of contemporary metal vessels. Papousek has also suggested that such ceramic variation from a metal example occurs during the process of information transfer by, and because of interpretation on the part of, an intermediary between the original and the potter (1989:164). This may well have been the case in EM Crete where the dearth of surviving vessels may reflect the ancient situation and which may consequently have meant that the Vasiliki potters were not able to get a close up view of them, and relied on glimpses and reports of them on which to base the appearance of their ceramics. Also, a situation in which this might be archaeologically traceable would be in the case of what I term 'second generation skeuomorphs', that is, those that show evidence of having copied another copy instead of a metal prototype. Explanation of such intentional deviancy from the metal prototype might also be sought along the lines of inter-craft competition in which the potters may have made their product sufficiently different in order to create a new commodity and so compete with metal vessels on their own terms (Verhaege 1989,1991).

Furthermore, a preoccupation with identifying the metal prototype ignores the possibility of a somewhat more reflexive relationship between metal and clay vessels. Some of the earliest surviving metal vessels are very simple bowl shapes which probably owe as much to the influence of ceramic bowls as to the relatively under-developed techniques of smiths who were developing this area of their craft. This focus on the origins of innovations can be seen as the well-spring of the notion common in discussions of skeuomorphs, of an 'original' which stimulated the ceramic 'copies'. The use of such terms and the meanings they carry highlights the question of how we define and identify metal skeuomorphs.

### **2.4.3 Identifying Metal in Clay**

I have waited until this point to propose my own definition of skeuomorphs for two reasons. Firstly, the discussion in the previous two sections has highlighted some of the intellectual assumptions and prejudices which serve to hamper the investigation and understanding of this phenomenon. By showing how these generalisations and logics are unrealistic, I hope to have reoriented to some extent the investigation of these ceramics to one based on viewing them on their own terms, and studying them in the broader socio-cultural contexts in which they were produced and used. Secondly, the



evidence outlined in Chapter 8 demonstrates there are many degrees or variants of skeuomorphism, with examples ranging from virtual copies to those which much more subtly reference metalness. In the light of these points I think that it is useful to define a skeuomorph as essentially an *interpretation* of a vessel in one material with the purpose of evoking the appearance of another medium, *according to the aesthetic idioms of the society in which it was produced*. This view of skeuomorphs dispenses with the restrictions imposed by the notion of a 'copy', takes into consideration discrepancies between how our eyes and those of ancient potters may have viewed what the essence of metal was, and reduces the reliance on the existence of a metal prototype in order to establish that a ceramic vessel is a copy of it.

The next question concerns how we might transcend subjectivity in an attempt to establish what traits are particularly metallic, and clarify how we perceive one object to be an imitation of another. This might seem superfluous in cases such as fig.2.1 (skyphoi from Vickers and Gill 1996:119), where the one to one replication is quite obvious. However, might not more currently contested examples seem to be equally 'obvious' imitations if the metal versions of them were to be discovered? Therefore, in order to establish a base line for identifying metal in clay it is necessary first to delineate the basic aspects capable of conveying metalness, together with more specific characteristics and devices used to express these.

Colley was probably the first to note references in skeuomorphs to both the structure (form) and construction techniques of prototypes, noting that the latter become converted to purely decorative features (1889:166,168). With respect to form, several authors have noted that carinated, flaring and sharply angled profiles are particularly characteristic of metal vessels (Davis 1977 figs. 172 & 143; Raby 1986:184; Vickers 1986b:137), as are high raised spouts (e.g. Davis 1977 figs.78, 106, 186), everted horizontal rims (Davis 1977 fig.125; Gill 1986:17), ridges at shoulders (Davis 1977 figs.106 & 153; Gill 1986:16) and horizontal strengthening bands (Davis 1977:132 figs. 112 & 136). Also typical of metal vessels are pedestal or stems (Davis 1977:figs 132 & 236), an undulating rim as on the Gournia kantharos (fig.2.2), a tall cylindrical or concave neck (Davis 1977: fig.214; Gill 1986:17), spool handles (Davis 1977:fig.172) and round or high looping ribbon handles (Davis 1977:fig.143).



With respect to metallurgical techniques, the rolled edge often seen on handles is probably a reference to a technique peculiar to metal crafting (Davis 1977:fig.233; Gill 1986:16). Particularly obvious are fictile rivets that reflect the practice of holding together, or attaching appendages to vessels of beaten sheet (Davis 1977:53). Similarly, rows of small painted dots may refer to the practice of constructing metal vessels from numerous soldered and/or riveted plates (Matthäus 1980:327). The reinforcing of rims and handles by plating these areas with stronger metals such as copper, has been noted by Vickers (1986b:145; cf. Davis 1977:330) and he suggests that it is possible to detect this practice in skeuomorphs from the different colours of paint, specifically purple for copper, used at these key places. Davis also notes that rounded, globular forms are easiest to producer from raised metal plate (1977:124).

Myers noted that skeuomorphism encompasses the design and decorative elements of the vessel (1930:464), although here I am not so much concerned with individual motifs as those methods of embellishment which either lend themselves most readily to metal, or are understood to derive from metallurgical techniques. Included here are repoussé and relief which are more difficult to accomplish well in clay and also stamped decoration (Gill 1986:10). Fluting and arcading, in which the ribbing is actually a source of strength in a metal vessels (Gill 1986:17), thus belong in this category as do incising and the inlaying of contrasting colours, techniques which can achieve most detail and precision in the medium of metal. Decorative handle attachments can also be seen as a specifically metallurgical response to the need to disguise unsightly joins, a situation which does not need to occur in more pliable materials.

Skeuomorphic decorative elements can also result from the nature of the material of the prototype. Metal sheet can be beaten until it is extremely thin, enabling very fine-walled vessels to be produced. This effect is problematic to replicate in materials such as clay as the vessel may have a tendency to collapse when wet or crack when fired. Bright colours and shiny reflective qualities are inherent to this medium and can only be approximated in clay through the application of paint or slip, or by means of special techniques such as burnishing and differential firing of clay. On the other hand metals, with the exception of gold, tarnish naturally through oxidation and so can acquire quite different colours and surface appearances, silver going to a dark, dull grey and bronze taking on a mottled red/orange/black appearance (Vickers & Gill 1996:124-127).



The purpose of the last few paragraphs has been to demonstrate as both Vickers and Gill (1996:123) and Davis (1977:94) have suggested, that there are features which were first developed by metalsmiths and which potters subsequently absorbed into their aesthetic repertoire. I propose that this kind of more detailed awareness of how metalness can be expressed, combined with charting how such expression varied through time and space, will enable a better understanding of the changing aesthetic dialogue between metal and clay. More generally, I suggest that expanding our interpretative boundaries with respect to material culture does not have to lead down a slippery slope of reduced intellectual and explanatory rigour. Rather, in collaboration with a comprehensive understanding of the cultural context, it allows access to ways of perceiving ancient material culture that the tight and perhaps even artificial bindings of functionalism and positivism obscure. Thus, as a preface to my survey of BA skeuomorphism in Chapter 8, I outline the evidence for there having been a significant expansion in aesthetic experimentation in the Aegean EBA contemporary with the advent of metal skeuomorphs. Another pertinent component to this and later changes, are the key social transformations that occurred during the BA of both regions, which I discuss in the following chapter.

## **Chapter 3 - Socio-historical Context**

As noted in Chapter 1, a necessary preliminary of my approach to accessing BA social dynamics through metal vessels and skeuomorphs is to sketch what is known about the principal socio-cultural and political transformations that characterise this period. For both this and the presentation of the data in Chapters 4-7 I have adopted the established cultural period subdivisions, which correlate very closely chronologically between the Aegean and Anatolia (see fig.1.1). For the Aegean I have based my dating on the absolute chronology of Warren and Hankey (1989). As no comparable study of Anatolian chronology exists, I have based the absolute dates for the EBA on excavation reports of the principal sites (e.g. for Troy, Blegen et al. 1950, 1951, 1953; *Studia Troica* I-IV; for Alaca, Koşay 1944, 1951, 1966, 1973; for Horoztepe, Özgüç & Akok 1958). For the second millennium, first the Kültepe Karum texts and subsequently the Hittite texts have enabled the establishment of absolute dates for the various phases of the MBA and LBA. These periods correlate fairly closely with the palatial periods in the Aegean e.g. the beginning of the Assyrian colony at Kültepe is dated to 1940 and the First Palace Period on Crete to the start of MM IB, that is, c.2000/1900. However, there is slightly more of a gap between the destruction of the karum at Kültepe, marking the end of the MBA/beginning of the Hittite Old Kingdom (HOK), dated to 1780, and the beginning in the Aegean of the SPP (MM IIIA) c.1700. However, the beginning of the Hittite Empire (HE) dated to 1450 correlates neatly with the beginning of the TPP. The principal sites mentioned in the texts are shown in figs. 3.2 and 3.3.

### **3.1 The Pre-Palatial/EBA Period (c.3200-2000/1900BC)**

In contrast to Mesopotamia, where in the third millennium writing systems were well established for administration, religious and trading purposes, societies in Anatolia and the Aegean were still pre-literate at this time. The material culture is therefore the basis of our knowledge and interpretation of the socio-cultural changes during this period. A long history of excavations and pottery studies in both regions has resulted in generally accepted absolute and relative chronologies by means of which it is possible to correlate temporally cultural changes. In the Aegean the data derives from a fairly even spread of small- to medium-size settlements throughout the southern mainland, the Cyclades and Crete e.g. Knossos, Myrtos, Phaistos and Malia on Crete, Ayia Irini, Phylakopi and



Kastri in the Cyclades, and Lerna, Lefkandi, Tiryns and Tsoungiza on the mainland (Dickinson 1994:50-59; Watrous 2001:167-182). In Anatolia, there is a similar spread and size of settlements and several key sites, in geographically distinct areas: Troy in the north west, Liman Tepe on the west coast, Tarsus in the south and Alaca which, from its rich burials, was seemingly a chiefdom-ruled nucleus site in a local settlement hierarchy in the north central area. In terms of metal vessels, the majority of the EBA Anatolian corpus comes from Troy and Alaca, with the rest found largely in their environs. Rather than this concentration effecting an artificial skewing of the ancient record, however, I believe that the geographical location and economic/social power of these sites may largely account for this pooling. This, and both the paucity and Cycladic focus of metal vessels in the Aegean, is an issue to which I return in Chapter 4.

The dawn of the EBA in the Aegean is characterised by a gradual cultural distinction from the preceding Neolithic during EB I, which gains momentum during EB II along with a substantial increase in population, number and size of settlements accompanied by a transformation in the subsistence base. From a general pattern of agricultural settlements in EB I several important centres emerge in EB II including (among others) Lerna, Tiryns and Manika on the mainland, Ayia Irini, Chalandriani and Dhaskalio-Kavos in the Cyclades and Knossos, Phaestos, Malia, Mochlos and Gournia on Crete. It is also a time of emergent social complexity and differentiation which seems to reach a big man or chiefdom level of organisation at certain centres on the mainland, Cyclades and Crete by mature EB II, but which mysteriously collapses, except on Crete, in a series of destructions by EB III. It is also during EB II that the Aegean becomes part of a wider network linking the more developed state societies of the Near East to Europe (Nakou 1997:634). However, this connection was not one of trading equals but that between a core area of power and affluence and peripheral areas (Sherratt 1993). This was a situation that was probably already established between Anatolia and the Near East in the early third millennium (Nakou 1997:644). Technological advances, particularly in metallurgy and pottery are also observed in EB II (Branigan 1974:100-105), together with a floruit of intra- and inter-regional contacts increasingly involving low volume/high value artefacts.

Renfrew's *Emergence of Civilisation* (1972), which despite criticism is still the seminal interpretation of the Aegean EBA, viewed the achievements of this period as an indigenous product resulting from the interaction of six subsystems. The marked



intensification of communications between different parts of the Aegean in EB II, as evidenced by the acquisition of metals and the exchange between areas of distinctive components of their respective material cultures, prompted Renfrew to propose that "an international spirit was abroad." at this time (ibid:451). Overseas contacts within the region are indicated by the presence of mainland-made sauceboats in the Cyclades, Crete and at Troy, and Cycladic folded arm figurines, frying pans and stylistic elements in the Mesara and along the north coast of Crete from Knossos to Palaikastro as well as on the mainland. EM pottery is found in the Cyclades (Warren 1984) and Kythera together with small quantities of metalwork (Branigan 1974; Sherratt & Sherratt 1991).

### *Location, Knowledge and Power*

From recent studies it is emerging that there were a number of nodal communities whose strategic geographical positions on key trade routes, enabled them to control both local trade and access to exotic goods and knowledge. Ayia Irini has been interpreted as an emporium benefiting both from its safe harbour and its position on the routes between the Cyclades and the metal sources at Lavrion (Wilson & Eliot 1999). There are numerous possible sources of silver in the Cyclades (Gale & Stos-Gale 1981:185-195), as well as copper (Gale & Stos-Gale 1984:267), and analyses have found that some Cycladic silver artefacts were made from Siphnian ores (Gale & Stos-Gale 1981:215) and most Cretan metal objects from Kythnian and Siphnian ores (Stos-Gale 1993:127).<sup>3</sup> Additionally, the Lavrion mines were producing both silver and copper at this time. Cycladic importation of Lavrion ores may have been due to the limited extent of deposits in the Cyclades, their comparative abundance at Lavrion and the ready availability of fuel in the Lavrion area which is believed to have been scarce in the Cyclades (Gale and Stos-Gale 1984:270). Thus, the long-established channels of Aegean intra-regional trade in metals could provide some raw materials for Aegean smiths.

At Mochlos, termed a 'gateway community' by Branigan (1991), we see an extensive pooling of gold (40% of all EBA goldwork in Crete has been found here), similarly silver and lead, and also a concentration of exotics including ivory, faience, carnelian and chalcedony, acquired by means of its contacts with Egypt and the Near East.

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<sup>3</sup> These conclusions are based on lead isotope analyses which have attracted criticisms based on several points (Bergemann et al. 1995:124-129; Budd et al. 1996:169-171). However, the theory perhaps gains some support from the scarcity of argentiferous lead deposits on Crete and also the fact that the distribution of silver objects on Crete is concentrated in the northeast which, apart from lying on a direct route to the Cyclades, has very strong indications of regular contacts with these islands.



Dhaskalio-Kavos, on the eastern edge of the Cyclades was another such nodal community (Broodbank 1993,2000) although here, the invisible commodity of exotic knowledge gained from more impressive centres such as Knossos, Lerna and Troy has been posited as the most important long-range import. The hypothesis is that those returning with such knowledge and putting it into practice in the form of social drinking, as evidenced by the new Greek mainland and Anatolian type drinking and pouring vessels that appear in the Cyclades at this time, would have enhanced their prestige in their community (ibid:324-327).

Other more recent studies attempt to extricate information on the social function and significance of various aspects of Aegean material culture (Broodbank 1993; Carter 1994; Haggis 1997; Nakou 1995; Rutter 1993). These have offered the possibility of understanding the underlying nature and dynamics of the socio-cultural changes of the EBA, which may have contributed to the marked social differentiation and rise of the palaces seen in the following period. For example, already noted in section 2.3.2 is Haggis' study of the origins and typological development of a distinct new ceramic form that first appears in EM I, the chalice, proposes that a dynamic of competing emerging elites in north Cretan coastal communities emerged in EM I/EM II. His hypothesis of north Crete's ascendancy over the south of the island at this time fits well with Wilson and Day's theory that there was a strong central authority at Knossos that was importing prestige fine wares from the south (1984:85).

Another example is Rutter's comparative study of Korakou Culture (EH II) and Tiryns Culture ceramic assemblages (EH III), which concludes that the pottery of each represented vehicles for quite different social strategies: the first served to maintain cultural solidarity over a wide area, the second promoted the distinctness of smaller groups such as lineages or even individual potters (1993). Turning to another aspect of the material culture, Nakou's research (1995) interprets the 'metallschock' of EB II as reflecting a change in the way social strategies of emerging elites were expressed by material means. Her hypothesis regarding the social significance of metals and the means by which access to them was controlled was outlined in section 2.3.2 above. Similar models have not been developed for Anatolia, where a focus on more traditional studies of architecture, pottery and small finds has prevailed.



New knowledge can also be detected in the field of technology. Considerable advances were made in pyrotechnology as evidenced by both new pottery wares and metal artefacts (Branigan 1977:119,121). For example, both Fine Grey and Vasiliki wares demonstrate a significant shift in the potters' technical ability to produce completely reduced atmospheres and carefully controlled temperatures in the kilns (Wilson and Day 1984:4). Similarly, the control and manipulation of temperatures enabled advances in metallurgy, as indicated by the increased incidences of copper/arsenic and to a lesser extent, copper/tin alloys, as well as soldering, although filigree and granulation, used widely in the contemporary Troadic material, is not known in the rest of the Aegean until later. Whether these advances were entirely the result of indigenous experimentation or based on skills learned during the process of metals acquisition overseas cannot be known for sure. Whatever the case, in the light of the evidence above for contemporary inter-regional commodity and information exchange, the gathering of such knowledge from more technically advanced communities would not seem out of place (Yakar 1985a:36). One such focus, with not only plentiful resources but also a long history of metal mining and working stretching back to the Neolithic, is Anatolia (see further below).

### *Shifting Social Realities - The Advent of Alcohol*

Another significant social development of the EBA was the introduction of alcohol to these two regions. Evidence for the beginnings of alcohol production in prehistoric Europe, together with the contemporary appearance of various drinking sets both there and in the Aegean and Anatolia, is the basis of Sherratt's (1987a) model of the social consumption of alcohol as a new marker of status at this time. The appearance at this time of new Greek mainland and Anatolian type drinking and pouring vessels (e.g. tankard, depas, sauceboat) in the Cyclades, notably at the nodal sites of Ayia Irini and Dhaskalio-Kavos where at the latter we also see conspicuous consumption in the wholesale destruction of prestige goods (Broodbank 1993), is suggestive in this regard. However, although this evidence concurs with theories of the role of Mediterranean poly-culture in the emergence of elites in the third millennium (Renfrew 1972:208-10; Runnels and Hansen 1986), it is not until the FPP that we have firm botanic and textual evidence for wine production (Hamilakis 1996:21,24; Ventris & Chadwick 1973:31. See sections 3.2 and 3.4 below re Linear A and Linear B respectively). Nevertheless, it is possible that wild grapes, evidence for which is found on Crete during the EBA, may have been used to produce an alcoholic drink (Hamilakis 1996:22).



However, by this point alcohol already had a much older history in both Egypt and Mesopotamia. Geller draws on archaeological, textual and iconographic evidence to show that by the later pre dynastic (Naqada II), beer production was not only already beyond the domestic level (1992:263), but already part of elite strategies for building and maintaining their social differentiation (ibid:24), since control of beer production and distribution reinforced their role as providers (Joffe 1998:299). It is worth noting that it is also during this period that the funerary arena became a means by which conspicuous competitive consumption could be expressed through both the inclusion of increasing quantities of prestige goods in graves and the consumption of beer at funeral feasts (Darby, et al.1977; Endesfelder 1984). Turning to Mesopotamia, there is circumstantial evidence during the Ubaid period for alcohol production, although from the Uruk period the evidence is firmer (Joffe 1998:303). Archaic texts from Uruk (c.3000) list the centralised production of at least eight types of beer together with different types of ceramic jars they were perhaps stored in (Nissen et al.1993:45-46). Also, residue analysis from Godin Tepe (Period V) indicates that beer was stored in ceramic jars found in conjunction with a large funnel. This apparatus is perhaps an interesting comparandum with the metal perforated funnels in bowls found at later Kültepe (level 1b). At Mari, third millennium texts frequently record beer rations (Milano 1989:219,229-30), and drinking as part of state-organised feasting was a feature of the Ur III period (Schmandt-Besserat 2001).

There is also evidence for the early production of wine in Egypt (late pre-dynastic James:1996:195-202; Ward 1991:15), and the EBA Levant (3500-2350) where specific ceramic wares (red-polished and combed metallic) and shapes (jug, two-handled jars) are again associated with elite-controlled production and distribution of this beverage. As part of the late pre-dynastic colonial system, the southern Levant exported small quantities of wine to Egypt. Dessel and Joffe (after Helms 1988, 1993 and quoted in Joffe 1998:301) have interpreted this as "the exercise of social power through.....a permanent mission to a distant frontier.....to secure specialised goods for elite consumption and redistribution (Dessel & Joffe n.d.). Thus by the mid-third millennium, wine had become very well established in the Near East as a prestige commodity to the point that elites needed to acquire exotic versions as part of the maintenance of their status (cf. Joffe 1998:302). Contemporary evidence for wine in Mesopotamia can be found in the Late Uruk sign for wine (*tin*) and later third millennium cuneiform records (Green 1989:44; Postgate 1987), with Early Dynastic



cylinder seal impressions (Amiet 1980 pl.90:1190-1191) depicting social and possibly ritual consumption of alcohol, perhaps wine, using communal vessels and long straws of the type found in the Ur Royal tombs and later Anatolian graves.

The Aegean and Anatolia thus had geographical interfaces with cultures for whom the social, and often ritualised, consumption of alcohol was well established by the mid third millennium. With respect to Anatolia, and the north central area's possible metallurgical connection with Transcaucasia (see below and Chapter 4), it is interesting to note Badler's suggestion that the grape (and wine making?) was introduced to Mesopotamia through Iran from the northern, Caucasus area (Badler 1995).

### *Anatolia - Early Technological and Social Developments*

Although native copper, probably mined at Ergani, was cold worked at Çayönü into tools c.7,000B.C., the true beginnings of Anatolian metallurgy are generally agreed to be dateable at Çatal Höyük to c.6,000B.C. based on evidence of smelting (de Jesus 1980; Kaptan 1990). The pace of metallurgical development was initially slow, but by the mid to late Chalcolithic casting and rudimentary alloying were practised (e.g. at Mersin-Yümüktepe). At Arslantepe in the Late Chalcolithic/early EBA we see a shift in orientation in the metalwork from Mesopotamian to Trans-Caucasian influence (Palmieri et al. 1999; Trifonov 1994) which is suggestive in view of my comments in Chapter 4 regarding the Alaca material. Thus, by the EBA we have widespread evidence for accomplished metallurgical techniques and regional stylistic differentiation. At Troy this technical proficiency is seen particularly in the examples of sophisticated casting and miniature techniques used in the jewellery, while at Alaca we even find knowledge of iron in the form of an elaborate dagger, the ability to combine different metals on one object and a high incidence of tin bronzes.<sup>4</sup> This combination of rich natural resources and early metallurgical genesis, together with its land-based geographical proximity to the Near East, may well account for Anatolia's comparatively precocious urban and commercial development and its subsequent role as a socio-cultural bridge between east and west. Although this development may be seen as slow in comparison to Mesopotamia in the late Chalcolithic/early EBA, it is rather more advanced compared to the contemporary situation in the Aegean.

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<sup>4</sup> Both this subject and the question of regional stylistic differences in the metal vessel corpus is discussed fully in chapter 4



A similar trajectory can be seen in the early development of settlement sizes and types. The Neolithic super-settlements of Çatal Höyük and Hacilar are joined in the Chalcolithic by other smaller ones including Canhasan, Kuruçay and Beycesultan which were fortified and typically contained streets and large houses around courtyards with workshops and cult rooms. Population density and settlement size and numbers continued to grow through the EBA, with a concomitant restructuring of settlement hierarchies. Field surveys and excavations in the north central area alone estimate that the population here in EB II grew by four or five times that of the preceding period (Branting 1996:152-153). It is also at this time that we see evidence for the first large towns with monumental architecture suggesting not only social differentiation, but some form of central organisation and power. For example, the excavations at Troy have revealed a fortified citadel accessed by two monumental gated ramps and containing several large megara and other buildings, and it was here that the numerous 'treasures' were found, discussed further below. The lower town, which is still being excavated, was also surrounded by a gated fortified wall. Troy's strategic position at the Hellespont enabled it to dominate the immediate area and control trade between the Black Sea, Balkans and the Aegean, and resulted in the prosperity reflected in the items of elite material culture, a situation which is seen also at Poliochni and Tarsus (Nakou 1997:645).

A complementary centre for maritime trade seems to have been Liman Tepe on the west coast where a similar configuration of fortified citadel and lower town is currently being explored (Erkanal 1986). The most notable difference here is the large built harbour adjacent to the town. Additionally, finds from both here and nearby Panaztepe point to there having been well-established contacts by EB II with all areas of the Aegean, as well the Balkans and central Anatolia. Other similarly structured and fortified sites exhibiting comparatively advanced organisation include Tarsus in the south, Arslantepe in the east and Beycesultan in EB II, and Norşuntepe to the east and Kültepe in the centre during EB III.

At Alaca Höyük, in the north central area, the character and date of the settlement on the hill into which the thirteen 'royal tombs' shafts were cut is not clear due its almost entire destruction when the later Hittite centre was built. Drawings of a building complex contemporary with the tombs have been published (Koşay 1966) but not discussed in the literature. However, it is possible that these tombs of the elite were visible from the



settlement above and connected to it by a road that led through a gate to the settlement centre (Özyar 1999:80), and this perhaps served as an advertisement of the elite's power and ancestral claim. Alternatively, it has been suggested that Alaca may not have been the place from which those buried in the tombs ruled (de Jesus 1980:127) but that they resided elsewhere in the Pontic region (Yakar 1985a:29-30). Another enigma concerning these tombs and also the two found at Horoztepe, is that they do not have clear precedents in Anatolia, but rather their house-type architecture and the type of animal figurines contained within find parallels in Kurgan burials of Caucasia/southern Russia, as typified at Maikop. The ethno-cultural origins of these people has, unsurprisingly, been debated (Yakar 2000:244), with new information from the Ikiztepe burials seeming to confirm the arrival of a new ethnic (Indo-European) group via Transcaucasia in c. EB II who settled the north central/Pontus area between Kastamonu and Tokat, judging by the distribution in cemeteries of certain types of cult object and weaponry (Yakar 1985:36).

We do not know the political geography of Anatolia in this pre-literate period, nor have we any models concerning the social dynamics of the time. Several pieces of evidence, however, do indicate that at Alaca social differentiation had reached a point by EB II/III where an elite was able to acquire considerable quantities of a variety of metals from a distance, to draw on or control advanced craft expertise and to limit access by nearby settlements to these emblems of prestige. Surveys have shown that the most viable nearby sources for the copper used in the Alaca material were in the Pontic area at Kozlu where evidence for smelting was also found, and in the Tokat-Erbaa area near Horoztepe (de Jesus 1980:127; Kaptan 1990:77). However, judging by the quantity of copper used, other sources were probably exploited also (de Jesus 1980:154). Silver deposits at nearby Gümlüş were worked in EBII, but it has been suggested that while there may be some as yet unknown gold deposits in the Çorum area, Alaca's gold may well have come from deposits in the west (de Jesus 1980:154). Additionally, no evidence for smelting or working metals, such as crucibles or moulds, have been found at Alaca or in nearby sites, possibly suggesting that the artefacts were also made elsewhere, although the lack of habitation remains here may also account for this. Finally, that the elite of Alaca was able to exert sumptuary control over nearby sites such as Horoztepe, and perhaps even further afield at Kayapinar and in the Merzifon/Göller area, is suggested by the fact that only bronze vessels of much less quantity, variety and elaboration were found at these sites. While it is true that two gold



vessels have been found at Amasya-Mahmatlar near Çorum, their occurrence must be viewed in the light of the tens of gold and silver vessels from Alaca. Thus it may well be that at Alaca we have a situation similar to that at Troy in relation to the Troad, namely, that these sites were the nuclei of settlement hierarchies (Yakar 2000:21), controlling access to key resources that facilitated prosperity, and in turn enhancing their own prestige and power.

### *Inter-Regional Contacts*

It is also at the latter sites that we see the clearest evidence for both internal and extra-Anatolian trade. It has been suggested that some of the best pieces of jewellery from Alaca were either imported from or inspired by work from the Troad, the direction from which Alaca's gold supplies may also have come (Maxwell-Hislop 1971; Yakar 1985a:31). Mellink (1956) has also pointed to possible connections between Alaca and Mesopotamia and similar types of jewellery are found contemporaneously at Ur (ED III), Troy I and the EB levels at Tarsus, suggesting a common dispersal of these forms during the first half of the third millennium (Musche 1992; Nakou 1997:637), with these styles continuing into the second millennium (Maxwell-Hislop 1971:57-58). The 'palatial' workshops of Troy II produced fine jewellery, together with a wide range of weapons and tools which they exported to the Aegean, central plateau and perhaps Cilicia. The introduction of the fast potter's wheel in EB III, both in the west at Troy and in the central plain, particularly at Kültepe, is believed to have resulted from contacts with Cilicia or north Syria. The innovative Levantine slotted spearhead with its distinctive form of hafting has also been found at various north central Anatolian sites (Gerloff 1993). Also, Troy's strategic geographical position enabled it to control trade and access to raw materials from the Pontus/Black Sea area and act as a filter in to the Aegean via Poliochni (Nakou 1997). The latter and the south Black Sea coast seems also to have been an outpost of what Chernykh (1992) has termed the Circumpontic Metallurgical Province (CMP; Chernykh 1992; see also Nakou 1997:638), a long-established sphere of metallurgical techniques and styles prevalent in the area around the Black Sea and encompassing southeast Europe.

It is also at this time that the distinctive west Anatolian shapes of the depas, tankard and wheel-made plate appear at various Anatolian sites (e.g. Beycesultan, Liman Tepe, Troy) and in the Aegean at Manika and Lefkandi I and the Cyclades, though not on Crete (Barber & MacGillivray 1984b:297). The nature of the contact between the two



areas has been the subject of no small amount of discussion (Rutter 1983; Sampson 1993; Sapouna Sakellarakis 1987; Sherratt & Sherratt 1991) with some scholars suggesting that there were Anatolians actually resident in pockets of the Aegean (Sampson 1993 re Manika III; Stos-Gale et al. 1984 re Kastri on Syros). Weingarten's analysis of the sealing practices at Lerna IIC (1997) leads her to suggest that Anatolians were involved in some form of commercial venture with mainland communities. She suggests that Lerna was at this time a fortified trading post supplying regular Anatolian traders with silver in return for tin, and in addition, based on the presence of large quantities of dining and drinking vessels, that these trade missions were marked by occasions of communal wining and dining.

However, it has also been suggested that there may have been some form of indirect influence or contact on certain aspects of Aegean metallurgy by the central plateau communities (Mellink 1956). Tanged daggers, distinct from the Cypriot and near eastern versions, have been found with slight variations at several sites in Anatolia including Troy, Alaca, Tarsus and Til Barsib, as well as on Crete, where they are not an indigenous type (Branigan 1967:119). However, Mellink points particularly to those found in Alaca tomb T and their close similarity to ones found in the EC tombs on Amorgos, suggesting that the Cycladic smiths 'borrowed' the shape (Mellink 1956:49; Coleman 1985 also identifies these objects as 'frying pans'). She also draws attention to the "morphological similarity" between Cycladic 'frying pans' (themselves perhaps skeuomorphs cf. Broodbank 2000 chp.8) and what she terms the bronze mirrors<sup>5</sup> from Alaca and Horoztepe (Mellink 1956:53), saying that this is another indication of occasional contacts between the Aegean and central Anatolia (ibid:54). Irrespective of what the nature, context and frequency of such hypothesised contact may have been, in Chapter 4 I discuss the possibility that a small group of metal vessels further supports the case for there having been at least an awareness at this time in the Aegean of north central Anatolian metalwork.

The rich natural resources of wood and metals in the highlands north of the Taurus had been known to Syro-Mesopotamian communities, who lacked these, since the Neolithic (Yakar 1997:365). By EB II the connection between Syria/Mesopotamia and sites in the south and southeast were well established. Tarsus in particular seems to have had contacts in this direction, judging by the incidence of EB II ceramic wares from Zincirli,

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<sup>5</sup> This is an ascription which I challenge in Chapter 4.



Gedikli Höyük and the Euphrates and Khabur valleys, as well as Cyprus (Mellink 1989:322-323). There is also the fragment of a lead Syrian bottle, although the metal may have been mined locally. A high frequency of north Syrian ceramic imports is seen at Kültepe in EB II and Akkadian references to *Purushanda* have been connected to the existence of another karum settlement, possibly at Acemhöyük, in the late third millennium (Gadd 1971:426ff); and it was probably these early contacts that laid the ground for the Assyrian trade colonies in the central plateau in the next period (Özgüç 1963:6).

Finally, it has been suggested that in addition to there being some Sumerian affinities in Anatolian metal products, the iron dagger from Khafaje in Mesopotamia may have come from east Anatolia (Mellink 1956:45; Koşay 1934:61). However, following the devastation of Tarsus at the end of EB II, its orientation seems to have shifted more towards the west, although some central Anatolian and Syrian wares, particularly metallic ware, are still present (Mellink 1989:327). By the middle of this period the new megaroid buildings reflect west Anatolian building styles and there is a sudden appearance of mainly locally made western ceramic shapes including the depas, plate, bowl, tankard and lentoid jar. These distinctive western ceramics have also been found at Acemhöyük, Kültepe, Karataş near Elmalı and Aphrodisias (Mellink 1989:325ff.). The advent of these new shapes indicates an innovation in eating and drinking habits, akin perhaps to the feasting style known at Troy, with food being served in bowls and on plates, and drinks being taken in large two-handled vessels. They may also indicate a more general expansion in sumptuary behaviour and customs.

### *The Tin Question*

One question that remains largely unresolved is whence tin, used increasingly instead of arsenic in bronze production, was acquired. While both the Aegean and Anatolia at least initially had adequate domestic sources of copper, silver and lead (Branigan 1977:121; Stos-Gale 1993:127), and gold may have been mined in western Anatolia (de Jesus 1980:88; Stos-Gale et al. 1984; Yakar 1985:31), until recently no geological evidence for tin sources has been found in either region. However, Yener's study of the EBA tin mine at Kestel in the south central Taurus mountains, and the contemporary habitation site with metal workshop at nearby Göltepe (2000), may show that these highland sites were extracting and refining tin at this time, which was then supplied to lowland communities both locally and further afield. In addition, various external



sources have been proposed, including central Europe (whence tin may have travelled following the Danube down to Troy, Gerloff 1993; Mellaart 1968:187; Sherratt 1993) or through the Adriatic to the Erzgebirge region (Gerloff 1993; Muller 1989:5-16), Egypt (MacQueen 1996:42) and Britain (McKerrell 1978:7-24; Penhallurick 1986) but with varying degrees of evidence. A more likely source is Afghanistan (Muhly 1985:281; Pernicka et al. 1990:290-91), given the rich deposits there and the later Old Assyrian trade in tin with Kültepe which is believed to have originated east of the Zagros (Larsen 1976:86-92). However, given the sudden increase in tin bronzes in both the Troad and north central area (Yakar 1985a:28,30), and the latter's apparent metallurgical connections with the Maikop area (Chernykh 1978; Frankfort 1970:211; Kelly-Buccellati 1990:119; also see Chapter 4 below), an alternative route from Afghanistan may have existed north of the Black Sea (Yakar 1985a:30-31). Finally, more recently ongoing geological research in the Nigde area (south central Turkey) claims to have found three mines that were operating c.5,000 ago (Kaptan 1995:200-1).

Alternatively, Nakou's observation that the spread of the Anatolian/Levantine slotted spearhead and its innovative hafting system is linked to the spread of tin bronze spanning the Levant to the Aegean (1997:639), raises the question of whether another tin supply line existed through the east Mediterranean. As the tin provenancing debate seems unlikely to be resolved, it is perhaps more productive to think in terms of the points at which the tin entered the Aegean and Anatolia as key interaction nodes (e.g. Troy), and also to consider the socio-cultural role of this metal in the communities that had to establish long distance links to acquire it. Nakou suggests that part of the attraction of tin lay in its scarcity, exoticism and symbolism, its sources being located beyond the bounds of geographical experience (1997:639; cf. Broodbank 1993; Helms 1988), and thus necessitating the establishment of far reaching alliances. As "the underlying grammar" (ibid:640) for the nature and manner of such relationships pre-existed from EB II (Broodbank 1993; Nakou 1995), tin presented another means by which small groups could acquire power and prestige by controlling knowledge of and access to it. This, combined with tin's ability to alter the colour of alloys meant that its value lay less in its strengthening properties in alloys, than in its symbolic valency, to the point that it effected a change in the Aegean value system (Nakou 1997:641).



### *Summary*

One of the key points to emerge from this survey is that, during this and the following period, before the rise of the Hittites in Anatolia, there existed regionally differentiated cultures at the centres of which were proto city-states (Yakar 2000:241) that seem largely to have co-existed as peer polities. The acquisition of metals fuelled their increasingly frequent contact both with each other and communities further afield, most likely in an initially peaceful but competitive climate. To the north west the narrow passage of the Propontis, and in the south east the Cilician gates, favoured the development of nodal communities (Poliochni, Troy, Tarsus) where considerable metallic and other wealth pooled. However, it is possible that the series of widespread destructions such as at Troy, Liman Tepe, Alaca, Beycesultan, Kültepe, Tarsus and Acemhöyük, among others, from the mature EBII until the end of the period, were driven by increasing competition for access to and control of natural resources, rather than the traditional theories of aggressive proto-Hittite immigrants from the north and 'Cappadocian' invaders from the south (Crossland 1970; Mellink 1956).

In the Aegean we see strong local differentiation which develops in EB II into a general climate of prosperity and international expansion, spurred by intra-regional trade and early contacts with the 'core' areas of the Near East (Sherratt 1993), as well as the introduction of innovative and exotic items such as alcohol and metal vessels. Similarly, wealth pools at nodal communities in the Cyclades and Crete and later (EH III) at sites in the Saronic and Corinthian gulfs and Adriatic (Nakou 1997:645). This expansive situation persists on the Greek mainland until EH III, when various destructions, perhaps fuelled by internecine competition, interrupt further local developments and contact with the Cyclades for several hundred years. It is tempting to speculate whether the effective, albeit temporary, removal of the Greek mainland communities from the increasingly vigorous commercial orbit of the Aegean left the field open for Crete, and thereby indirectly contributed to developments witnessed in the next period.

### 3.2 The First Palace/Old Assyrian Trading Colony Period (c.2000/1900-1750/1700BC)

I have dwelt on the EBA developments in both areas in part in order to contextualise the subsequent considerable developments evidenced particularly in Crete and the Central Anatolian plateau in the early part of the second millennium. The various tantalising threads of cultural development in the latter part of the third millennium outlined above do not singly account for what happened next. However, together they can be seen as having laid the ground for the emergence of Minoan palatial society on the one hand, and on the other, the energetic climate of international commercialism known as the Assyrian Trading Colony period, epitomised by the finds from Kültepe.

In terms of sources for this period, the architectural and artefactual remains are supplemented by the fortunate survival and recovery of the extensive cuneiform archive from the merchants' houses in the karum at Kültepe. In contrast to texts of later periods which were largely created by, and refer to, palace administrations, these texts refer to the economic and social situation of a non-elite, middle class in central Anatolia. They provide evidence of a very focussed and well-organised trade between the central plateau and the Assur area in tin and textiles from the latter and silver in return, as well as a local trade in copper (Larsen 1976). They also provide some information regarding viticulture, which seems to have been well established at a household level by this time (Gorny 1996:147, 164), with wine used also as a trade item (Oppenheim et al. 1971:203). On Crete this period marks the appearance of Cretan Hieroglyphic and Linear A, both of which, although largely undeciphered, indicate the beginnings of centralised palace administrations.

#### *The Aegean - Expanding Cretan Contacts and Regional Contrasts*

Following the disturbances and abandonments seen at many Cretan settlements at the end of EMII, and elsewhere in the Aegean during EH/EC III, the early MM was a period of dynamic development with considerable population growth at major centres on Crete, including Knossos, Phaistos and Malia (Watrous 2001:183). The first true urban centres appear on Crete towards the end of MM IA together with the building of the first palaces. Rich burials, such as those found at Archanes as well as others at Mochlos and in the Mesara, are the source of most MM I prestige artifacts and provide corroborating evidence for a resurgence in prosperity (ibid:214). Interestingly, Watrous has drawn comparisons between the gold jewellery from the Mochlos and Mesara



tombs and items found in contemporary graves at Kültepe (ibid:192). In the Cyclades Phylakopi I is established (ibid:182), and most notably Kolonna on Aegina shows signs of being a relatively prosperous centre (see further below), but otherwise this is a time of general stagnation, if not downturn, for communities in both the islands and Greek mainland.

We do not understand exactly the processes that led to the emergence of the first palaces on Crete in MM IB at Knossos, Phaistos and Malia as we currently lack the necessary data to resolve this question. The three principal theories are cultural diffusion, indigenous development and core-periphery relations (Cherry 1984; Halstead 1981 & 1988; Warren 1987; Watrous 1987). However, given the indications of contact with the Near East (of which further below) it seems probable that interaction with the richer and more politically advanced societies of Egypt and the Near East may have been a contributory factor. Nor is the political geography on Crete clear at this time, although the fact that the same elite material culture was used simultaneously at the three palaces may indicate that there existed a situation of peer polity interaction and competition (Cherry 1986).

By contrast to Crete, on the Greek mainland and in the Cyclades, we see from EB III onwards a reversion to small-scale societies with the apparent exception of Kolonna on Aegina (Niemeier 1995). Here a huge fortification wall second only in size to Troy has been found, as well as evidence for continuing prosperity based on intra-regional trade, and a single, richly endowed shaft grave. Cycladic wares and also Cretan Kamares (MM IB-II) imports and local imitations point to continued intra-Aegean trade. Evidence that it was necessary to protect actively this comparative affluence from external forces is suggested not only by the strong fortifications but also by depictions on jars of people with spears on long boats, and a warrior burial. The latter consisted of a shaft grave, seen as a possible precursor to the later ones at Mycenae, and contained a great deal of weaponry, fine pottery and obsidian arrowheads as well as a gold diadem.

Kolonna does not really have any peer sites on the mainland although at Asine, while there is no public architecture as such, there are some possible indications of social ranking seen in residential buildings of varying sizes and burials furnished with different classes and quantities of grave goods (Rutter 2001:130). Much of the southern mainland experienced abandonment of settlements near or at the end of EH III, followed



by resettlement during the later MH III, with the exception of Lerna and Nichoria which exhibit continuous occupation (ibid:131-2). Glimpses obtained through recent rescue excavations at Thebes and Argos, as well as large numbers of MH tombs here, point to these two sites having been particularly large MH centres. The appearance of MH Grey Minyan ware throughout the islands and the southern mainland (Davis 2001:33, 34, 39 60, 62), as well as some on Crete (Rutter:137), with its skeuomorphic surface appearance and carinated forms, is significant given the total absence of metal vessels in this area (see further Chapters 5 and 8).

Much research has focused on the nature and intensity of trade and contact between the Aegean and its Near Eastern neighbours in this period, with reconstructions being based on three areas of evidence. Firstly, while the amount of items that can be definitively shown to have been exchanged in both directions is limited, Cretan Kamares ware has been found in Cyprus, Ugarit and Byblos (Cadogan 1983; Dunand 1939; Stewart 1962) and especially Egypt (Kemp & Merrilllees 1980:70-75). In the other direction, Egyptian stone vessels and scarabs have been found in Cretan contexts, but are rare. Further evidence for contact with Egypt is suggested by MM I-MM II clay coffins (Rutkowski 1968), seals (Weingarten 1994), the clay relief of a sphinx at Quatier Mu, Malia and various Egyptian and Egyptianising objects and motifs (Phillips 1991). However, that the Aegean was still somewhat on the periphery of eastern Mediterranean elite exchange and not yet viewed as an equal economic or political power is suggested by the absence on Crete of royal gifts and items decorated with Egyptian royal iconography (Watrous 1998), which are prominent at Byblos and elsewhere in the region (Montet 1929; Tufnell & Ward 1966; Gerstenblith 1983), though lack of preserved elite burials should be taken into consideration.

Secondly, textual evidence (Heltzer 1989) somewhat fills out the picture of Aegean trade with Syro-Mesopotamia (Betancourt 1998). Documents from Mari dating to the 18<sup>th</sup> c. B.C. mention items from 'Caphtor', generally taken to refer to Crete, which the king of Ugarit had acquired from Caphtoran merchants in his town and was sending as a 'gift' to the king of Mari. These items included weapons, pottery, textiles and sandals. This illustrates several points. Firstly, that Cretans were well enough established at Ugarit not to require a trade intermediary and that their products were seen as of sufficiently high quality to be a 'gift' to a king. Secondly, the context of this text concerns the trade of tin from further east and so this may indicate the direction from



which Crete was obtaining at least some of its metals and possibly also its semi-precious stones. Thirdly, there is the possibility that, as Crete lacked most valuable natural resources, it was importing raw materials and processing them into high value exotica for the orient. Finally, it may be that they were trading in archaeologically invisible items.

The third strand of evidence for extra-Aegean contacts centres on innovations from the east including the use of ships with sails, representations of which we see on Cretan seals and also very similar seals from Byblos. Other examples which are rather more contentious include the central court palace plan (Pelon 1989), architectural style and administrative practices (Watrous 1987:70), the potter's wheel and use of scripts (Watrous 1998). Contact between Anatolia and Crete is not well documented in the early second millennium but there is some evidence for Minoan pottery and also settlement in the west (Amiran 1968; Benzi 1984; Mee 1988; Schiering 1984). Further evidence is rather sparse, centering on the iconographic and stylistic similarity of a small amount of sealings from Phaistos with those from Karahöyük (Levi 1969:241-264), similarities between the administrative systems indicated by the sealings as locking devices at Karahöyük and Phaistos (Weingarten 1990:63-95), libation ritual iconography (Mellink 1987:65f.) and the Malia leopard axe (Davis 1977:85). Assuming that the bulk of trade between the Aegean and Anatolia at this time was not based on archaeologically invisible commodities, the above paucity of evidence represents a reduction in interaction from the previous period. The reasons for this may lie in the socio-political changes happening in Anatolia at this time and the concomitant trading decisions that Aegean communities made.

### *Anatolia - A Shift in Political and Economic Focus*

Following the Troy II destructions, Troy III-V is much smaller and rather impoverished and it is not until the mid to late part of Troy VI (c.1500-1200 B.C.) that it is once again a large and thriving emporium controlling trade and resources. The chiefdoms in the north central area seem to have dissipated also, with sites such as Alaca and Alişar becoming Hittite centres in the later part of the millennium. Now the political and economic focus is on the central plateau. At Kültepe we see not only a two tier social distinction, as indicated by the palace and temples on the citadel above the town below, but also in the latter a karum inhabited by a 'middle class' of successful Assyrian merchants. However, were it not for the extensive cuneiform tablet archives found in



these merchants' houses we would not know of their origin, nor the extent or nature of the trade they conducted between Anatolia and their homeland, importing tin and textiles from the east and exporting silver and gold (Larsen 1976:86-92). It is predominantly in the graves and houses of these merchants that the surviving metal vessels, which are mainly of bronze, were found. The latter may be significant given the merchants' export of indigenous silver supplies and local trade in copper, or alternatively this may have been due to sumptuary laws. There was undoubtedly a wealth of (precious?) metal vessels in the citadel palace and temple, but apart from a very few examples which have survived, it seems that the rest were removed during the looting and destruction of the buildings contemporary with Karum level I c.1750 B.C.

It had been thought that the destruction of the first karum, level II, c.1840 signalled the arrival of the Hittites (Mellaart 1958:14), but level II texts show the contemporaneous use of Hittite words in connection with certain local toponyms. Therefore, Hittite was spoken in and around this area prior to the destructions (Macqueen 1996:31). From these and later archives from Boğazköy it appears that speakers of several languages and dialects inhabited Anatolia in this and the following period in relative peace and prosperity. Also, it seems that there were a number of such karums at this time in the central area and one, Purushanda, has been tentatively identified as Acemhöyük (Macqueen 1996:29). This was another powerful and prosperous centre with a palace on a citadel (Özgüç 1966) surrounded by a lower town which, it is believed, although this is not yet proved by excavation, also contained a karum. The citadel was also sacked and burnt towards the end of the period and a similar pattern to Kültepe may emerge when the karum is excavated of a merchant enclave in which metal vessels survive. Other important centres were located at Alişar where a 'palatial' complex has been found (von der Osten 1937) and Boğazköy where Yakar suggests that there was an early ruling dynasty (Yakar 2000:241). It thus seems that in the central plateau area towns that had been under the control of local rulers in the later EBA became the centres of proto-city states during the Assyrian Colony period (Yakar 2000:256). In fact, most of the central and north central sites reached their maximal size in MB II. However, in the later part of this period and the beginning of the next, there were major upheavals resulting from two developments. The ambitions of the Hurrian states of northern Mesopotamia resulted in the trade route between Anatolia and Assyria being cut and consequently the principal tin supply route closing. The second development was the unification of the central Anatolian city-states under Hittite control, eventually



resulting in the formation of the Hittite Old Kingdom and later, in the 17<sup>th</sup> c., in the transformation of Boğazköy into the capital of the Hittite kingdom (Yakar 2000:241).

Much more could be said regarding the very rich and extensive elite material culture from the OATC period onwards which encompasses fine and highly stylised ceramics through to huge quantities of a variety of worked stones in the forms of vessels and seals (Özgüç 1986a). In addition to the dark-on-light ware, the highly burnished red ceramics with their accentuated arching spouts, sharp carinations and predominance of drinking and pouring shapes are characteristic of this and the following periods. I discuss these ceramics and their skeuomorphic connection to the contemporary concentration of copper/bronze vessels in Chapter 8.

### *Summary*

In conclusion, a key point is that, despite the fact that both the Anatolian city states and the Aegean could acquire precious raw materials, had access to highly skilled craftspeople and were, to differing degrees, participating in trade with the key players in the Near East, they seem to have had little trade or cultural interaction with each other. As Cline points out, there are only eight definitely central Anatolian/'Hittite' objects in the Aegean dating to between MM I-II and LH IIIC and these represent at most only one percent of all the Orientalia so far recovered in the Bronze Age Aegean (Cline 1991:140). He suggests this may be due to one or a combination of factors such as lack of need, periodic trade embargoes and a trade in perishable goods. It may also have been that they were in competition with each other as they were both known for their textiles, or simply that Assyrian control of Anatolian trade directed its focus on their ancestral contacts in Syria and Mesopotamia. However, he does not consider the possibility that there existed a trade in perishable commodities which would be archaeologically invisible, nor does he take account of the fact that sometimes international relationships existed which we know of from texts, and yet which have left no archaeological trace (e.g. that between Assur and Kültepe). Therefore, while the evidence indicates little or no regular trade between the two areas in the MBA, it remains possible that there were links involving materials that do not survive well (organics) or ones that may have been subsequently recycled (e.g. metals), and that we cannot definitively rule out the possibility of trade. As will be outlined in Chapters 5-7, this economic and cultural divergence is very strongly reflected in the style of the metal vessels of the period.



### 3.3 The Second Palace/Hittite Old Kingdom Period (c.1750/1700-1450BC)

Much of the evidence for this period in the Aegean derives from three principal sources. The Cretan palatial architectural and artefactual remains indicate that this period saw the zenith of Minoan civilisation and elite prosperity, and the highest level of Minoan influence elsewhere in the Aegean and the Near East. Traditionally, the focus of excavation and research on palatial centres and secondary sites has resulted in an elite-centric view of the nature and operation of Minoan society. However, more recently, surveys and investigations at smaller sites have broadened our view. Nevertheless, it is from the palaces and secondary elite centres that the majority of the Minoan metal vessel corpus, Linear A and skeuomorphs derive. Similarly, it is the serendipitous preservation of the Shaft Graves that has enabled our knowledge of not only the early Mycenaean metal vessels, but also of Mycenae's wide international contacts. With respect to Anatolia, the focus of the HOK monarchs on the establishment of their capital at Boğazköy means that most of our data, including some texts, come from here, although more recent finds of texts from Ortaköy and Maşat Höyük which are in the process of translation offer the possibility of extending our understanding even further (Hoffner 2002, Süel 2002); the other central plateau sites (e.g. Acemhöyük, Kültepe, Alişar, Karahöyük) declined as their economic infrastructures collapsed following the end of the Old Assyrian Trading Period. These early texts, particularly the laws, give us considerable insights into the functioning of the court and cult, although little about the economy, but more particularly, represent the first real pool of evidence regarding wine and its uses. As palace documents, however, their remit did not encompass the lives of the masses, and consequently we do not have a complete picture of everyday Hittite life outside of the palace, although they are a good source of information on the major sociopolitical developments of the period (Gorny 1996:150). In western Anatolia, the material culture of towns such as Troy V and VI and Miletus indicate that the settlements here were more orientated towards the Aegean.

#### *The Aegean - The Minoan Zenith and Emerging Mainland Elites*

The series of destructions on Crete during the last phase of the previous period on Crete (MM IIB) at the palaces and several other sites was followed by rebuilding at different rates at the various sites (MacGillivray 1994). Earthquake has been suggested as one possible cause (e.g. at Anemospilia; Rehak & Younger 2001:434), but internecine fighting may have been another contributory factor. Whatever the case, these



destructions proved to be a temporary setback and far from being a trigger for a permanent decline, the situation seems to have acted as an impetus for not only architectural, but also political change. The principal palaces of the FPP continue and additionally, several new smaller ones appear: at Petras in MM III, and Zakro, Archanes and Galatas in LM IA (ibid:393-395). In the Mesara it appears that Ayia Triada took over many of the administrative functions of Phaistos which, by its final destruction at the end of LM IB, had not recovered its previous level of resource control and local power (ibid.:393ff).

Indications of political changes are also found in the architectural changes in the rebuilt palaces. Reduced accessibility to the palaces (Palyvou 1987), and more imposing facades and formal boundaries suggest that the elites sought to distance themselves from the general populace. There was also a change in the function of the palaces and their relationships with the external environment. Whereas the palaces had previously acted as a central store for produce, now much of the internal space was given over to cult installations and metal, pottery and lapidary workshops (Moody 1987), with a new industrial area built in the north east quarter of Knossos, for example. Thus, the production of, and access to, prestige items was tightly controlled, as was the seat of religious action and power. Furthermore, this religious control extended outside the walls of the palaces. When most peak sanctuaries began to be used EM III-MM I there were approximately 25 on Crete and the activities centred on them have been interpreted as a form of grass roots/popular religion (Peatfield 1987, 1990). However, by the SPP, their numbers had diminished to seven or eight, most of which were very closely spatially associated with the palaces, which may indicate the palace elites' appropriation of this source of control and power.

Regarding the political geography of Crete, the debate is between those who support the idea of peer polity interaction (e.g. Weingarten 1991, who thinks that by the end of LMIB there are now four palaces based on document distribution), and those who believe in Knossian dominance, at least by the end of the period (Warren 1984b; Wiener 1990). The latter argument is based on both the concentration of elite material culture at Knossos, and the wide distribution of its palatial material culture in the form of ceramics, architectural styles, prestige stone and metal objects and frescoes. Some also see all the outlying villas, concentrated mainly (so far) in central and eastern Crete, as being under the control of the palaces as administrative outposts where much of the



storage function now centred. But others propose a political faction model with the villas as the seats of independent elites (Hamilakis 1996; cf. Knappett & Schoep 2000) vying with the established palaces for control of resources and power.

A difficulty in resolving this question is that we have do not have a LM IB destruction horizon at Knossos and hence no surviving documents which may have provided some insights. Nevertheless, even though we do not have the iconography of an identifiable monarchy either, nor can we as yet determine the nature of the hierarchy, the evidence indicates a centralisation and consolidation of power by elites at the sites of the old 'super palaces' through the assumption of control over prestige objects, specialised knowledge and spiritual concepts. Recent excavations at Poros-Katsambas indicate the existence here since the FPP of a thriving urban centre with a concentration of specialised and independent metal and lapidary workshops supplying both Knossos and communities in the Cyclades (Dimopoulou 1997:437). Another community of independent craft specialists, albeit smaller and dating to the end of the period, has been identified on the coast opposite the island of Mochlos (Soles 1997).

On the Greek mainland from MH III there was an emergence of local chiefdoms at various centres on the mainland. At present this is seen most clearly in Messenia, and in the Argolid epitomised by the two Mycenae Shaft Grave circles. There are also LH I tholoi in Messenia and a contemporary possible grave circle at Pylos, but in none of these was there found anything approaching the wealth of the Shaft Graves. At Mycenae both in the slightly earlier graves of Circle B (MH III-LH I), and Circle A (LH I) there is evidence of conspicuous wealth, access to very highly skilled craftspeople and trade contacts in several directions. This material evidences close and regular interaction with Crete that may also have involved the transference of Minoan metalsmiths to work in the Mycenaean workshops (Davis 1977:37,146-7,167; Bloedow 1997:440). Contact with Europe and the Baltic is suggested by the large quantities of amber beads, and there are also indications that the mainland was being drawn into the well established eastern Mediterranean trading orbit (Sherratt & Sherratt 1991). This sudden ascendancy of Mycenae is in stark contrast with the previous period in the Argolid, although it is not until the palace phase (c.1400-1200) that we can call it a state-level society. Although we do not know much about architecture at Mycenae at this time, as this was destroyed in the later construction work on the citadel, it would seem that the Minoan and Mycenaean elites adopted different strategies by which to



gain and maintain power. Cretan elite burials are rare in the SPP, whereas it seems that as soon as they were economically able to acquire a wealth of exotica and prestige items, the Mycenaean elite chose to advertise their contacts and affluence, and assert their growing power by laying a kind of hereditary claim in the form of their ancestors' burials (Voutsaki 1995).

There is an immense increase in Minoan influence throughout the Aegean at this time, seen particularly in the widespread distribution of both Minoan and 'Minoanising' pottery. In the islands in particular this also extended to the apparent adoption of the Minoan Linear A script, frescoes, certain loom types, its weight system, architecture and some cooking pots, as well as elements of religious ritual (Dickinson 1994:247). Akrotiri, Ayia Irini, Phylakopi and Kastri on Kythera were the main island trading centres with particular concentrations of these Minoanising elements. Niemeier has also proposed a Minoan colony at this time at Miletus on the Anatolian coast, a site which seemingly becomes Mycenaean in the later part of this and the next period. This has led to the theory of the existence of a Minoan thalassocracy (Sakellarakis & Sakellaraki 1984), with Wiener arguing that this situation was driven by Crete's need to safeguard its trade access to metal sources (Wiener 1990:146). Its influence on the mainland, which was initially restricted geographically to the Argolid, intensified with time, as seen in the many Cretan objects found in the later Shaft Graves. Influence in the other direction is slight, although the later Minoan predilection for monumental jars and the adoption of the LH II 'Ephyraean' goblet may be a Mycenaean influence. However, despite the evidence for increasingly close Minoan contacts, the mainland material culture retained its own character in not only in the shapes and decoration of the pottery and metalwork, but also in the megaron plan palatial architecture of the next period.

Minoan influence also extended to the Near East and Egypt at this time, judging by the frescoes found in important buildings at Avaris (Tell ed-Dab'a), Alalakh and Tell Kabri (Niemeier & Niemeier 1998), and more recently Qatna/Homs, which are Minoan in both style and themes. Imported and locally imitated Kamares ware was popular in Egypt at this time (Watrous 1998:20). One theory is that Minoan fresco painters actually travelled to these places (Niemeier 1991), which may be a reflection of the new level at which the Aegean was engaging with the Near East. In addition to the securing of necessary raw materials and the exchange of pottery and/or the vessels' contents, the Aegean now seems to participate in the Near Eastern rounds of high level diplomatic



'gift' exchange (Cline 1991). Additionally, Egyptian tomb paintings (late 16<sup>th</sup> c.) depict 'Keftiu' bringing an array of prestige items as gifts, including metal vessels (Wachsmann 1987).

As in the previous period, the focus of the Aegean's eastern overseas contacts seems to have been Egypt and the Near East rather than central Anatolia. In addition to the many luxury items such as ivory, ostrich eggs, lapis lazuli and Egyptian alabaster found on Crete, Canaanite amphorae and Cypriot wares have been found there and on Akrotiri and Phylakopi, and Egyptian items such as stone alabastra were being imitated on Crete (Watrous 1998:21-22,26). It seems likely that Crete was the Aegean hub for this trade, acting as a channel for Near Eastern goods into and through the Aegean, although the mainland seems to have had its own networks and relationships (Dickinson 1994:248). The only central Anatolian commodities the Aegean may have been importing at this time were tin and also copper in the form of oxhide ingots. However, with the exception of those dating to LM IB, which are believed to be Anatolian, oxhide ingots are now generally recognised as a standard Near Eastern form in which copper was traded (Dickinson 1994:248), so even this possibility of an Anatolian link is tenuous.

### *The Anatolian Divide - Hittite Political Hegemony and The West's Aegean Orientation*

The latter situation is quite surprising given the establishment of the Hittite kingdom in Anatolia at this time and, due to its territorial ambitions, its close involvement with the states of the Near East and Egypt. It is even more so given that, as noted in the previous section, the Minoan cultural sphere began to expand in the direction of south-west Anatolia at the end of the First Palace Period, and settlements in the Dodecanese and on the adjacent coast, for example at Miletus, continued to grow in this and the next period (Davis 1982; Gates 1994:291; Schiering: 1984).

Turning to the political situation in Anatolia, in general the central plateau towns which had flourished in the Assyrian Colony period lost their political and commercial status as a result of the Hittites' restructuring of the political geography, begun in the previous period (Gorny 1989). This culminated in the collapse of their economic infrastructures and thus Alişar, Kültepe, Acemhöyük and Karahöyük all decline to rural settlements (Yakar 2000:239). Instead, the Hittites invested heavily in the establishment of their



capital at Boğazköy, border forts and smaller district centres such as at Alaca Höyük, as well as cult centres on high peaks.

This is a time of constant tensions, battles and shifting alliances between the Hittites and the various established and emerging states on their eastern and south eastern borders including the Hurrians, Kassites, Amorites at Aleppo, and the kingdoms of Hana and Kizzuwadna. However, as in the next period, some of these campaigns, in addition to securing borders, may have been driven by the need to secure the essential supply of tin now that the trade with Assyria had collapsed.

Much of the textual and archaeological evidence for Hittite life, culture, government and religion dates to the following period. Nevertheless, the basic principles are applicable to this period also and there are three points that should be highlighted. Firstly, despite the fact that the Hittite state was headed by a rich and powerful king under whom was a large pyramidal hierarchy of various ranks of nobility, so far no royal or other elite burials have been found. We know from later texts that Hittite kings' funerals were elaborate and involved cremation, but the only viable candidate for a royal tomb found so far is that at Gavurkalesi, which had been robbed. It would seem highly unlikely that Hittite kings would not have been buried with considerable riches, probably including metal vessels, in which case there may be many to be found which will fill out the otherwise thin metal vessel corpus from this period. However, in comparison to the Mycenaean shaft graves, we are lacking rich depositional contexts in contemporary Anatolia.

Secondly, the texts show that wine was an important and expensive luxury item associated exclusively with the court and cult. However, in counterbalance to this, it should be noted that the absence of references to wine in connection with the general populace may be a factor of the nature of the texts, particularly in view of the fact that most Hittite households had vines (Klengel 1986), there were no sumptuary laws governing the use of grapes (Gorny 1996:150) and the Hittite *Arzana* house, a type of inn found elsewhere in the Near East, offered food, lodging and alcohol (wine is mentioned on KUB 53.14 and KUB 53.17 Hoffner 1974:118). Although Steiner suggests the king had direct control of its production and distribution (1966:308), this is debateable and the situation may have been more akin to that in later Mycenaean Greece, wherein the palace exacted assessments from local growers (Gorny 1996:150;



Palmer 1994). Irrespective, wine was associated closely with the king (e.g. KUB 36.110 rev.5-7) and by virtue of his role as divine representative (Gorny 1996:151), and its place in religious rituals (e.g. libations: KUB 6.45 rev.iv 27,32, festivals: KBo 25.176 rev.11', magic: KUB 15.42 ii 34-36, prayers: KBo 11.1 obv.25, ritual purifications KUB 41.11 rev.18') and oaths (KUB 43.38 rev.13-20), it gained symbolic associations and became an emblem of high status (Gorny 1996:159). Several different types of wine were made (Gorny 1996:150) and when mentioned as a drink it is invariably consumed by the royal family or high officials. Various types of vessel are mentioned as containers for wine, some of which are specifically referred to as metal (see further Chapter 8). Wine is also mentioned as a trade item, in one case in connection with Ahhiyawa and Mira (KUB 21.34 rev.6), and Gorny has postulated that wine was therefore perhaps one of the archaeologically invisible commodities traded with the Mycenaean world (ibid:158). These texts are particularly important for our knowledge of wine in view of the absence of any identifiable wine processing equipment to date (Gorny 1996:162), with the possible exception of the ceramic 'bath tubs' found at Kültepe and elsewhere<sup>6</sup> (ibid:fig.11.7), which may have been used as grape-crushing vats. Beer and other types of alcoholic drink, e.g. raisin wine, are also mentioned (Gorny 1996:158-9,163).

Thirdly, the ceramic evidence from Troy and the west coast suggests that there was little or no trade or cultural contact with the Hittites. The pottery from early/mid Troy VI, which is found as far south as Izmir, consists of shapes and fabrics specific to this area while, as noted above, that from sites further south such as Miletus is a mixture of the local tradition with first Minoan and then Mycenaean pottery (Mee 1978). Furthermore, there are no Central Anatolian ceramic shapes at Troy but there is some imported Mycenaean pottery (Mee 1998:144), which is totally lacking at Boğazköy, a situation which persists into the Hittite Empire period. However, Troy itself is once again highly prosperous, with its largest and most heavily fortified palatial citadel yet, and covering in total an area of 200,000 sq.m. (Mee 1998:145) It has been estimated that the population of the lower town was about 7,000, which would make Troy one of the larger cities in the region of its time (Korfmann 1995). It would thus seem that Troy and the west coast settlements' orientation was firmly towards the west, although as Mee has observed, there are between-site and between-period distinctions which should prevent us from thinking that there was necessarily a cultural uniformity over the whole

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<sup>6</sup> Similar examples have been found in Minoan Crete



area (Mee 1998:145). These sites' strong fortifications and apparent lack of cultural (and political?) solidarity with the Hittite world corroborate later records in the Hittite texts of battles with western states (Mee 1998:143).

In the Aegean this period comes to a sudden and dramatic end in LM IB/LH IIA with the wholesale destruction of the Cretan palaces (except Knossos), villas and many other settlements accompanied by a severe depopulation. Akrotiri had already been destroyed by the LM IA volcanic eruption and the remaining Minoan 'colonies' suffered in the LM IB destructions, thus ending Cretan power overseas. Various theories have been proposed to explain these events, including internecine conflicts from which Knossos emerged victorious (Niemeier 1994:88), Mycenaean invasion (Popham 1994:89; Weingarten 1994b) and natural disaster (including the Thera eruption and earthquakes on Crete) leading to economic weakness (Driessen and MacDonald 1997). However, general opinion tends towards a combination of natural disasters initiating a severe period of recession on Crete which resulted in a power vacuum that the Mycenaean people and/or practices expanded into.

### **3.4 The Third Palace/Hittite Empire Period (c.1450-1200BC)**

The principal difference in our sources for this period is that we have large quantities of texts from both regions. Although the usual problems of translation and interpretation exist, the nature of the Linear B tablets from the Aegean provide insights into the production and control of commodities such as metal vessels that we would otherwise have little idea about. They consist of administrative records detailing the collection and redistribution of goods and services by the palaces and their agents. However, as they were intended as temporary records, to be transferred to a more permanent form at a later date or else destroyed, the surviving archives from both Crete and the Greek mainland only give us a glimpse into the last few months of the various palaces' administration prior to their final destructions (Chadwick 1976:27). However, they act as a useful supplement to our knowledge of the metal vessels and also alcohol production. In contrast, a great deal is known from the Hittite texts regarding the form of government through to daily life and religion (although they speak little about the economy), supplementing the archaeological data from sites such as Beycesultan, Maşat, Alaca, Tarsus, Norşuntepe and Tepecik, and of course the capital, Boğazköy.



On Crete recovery proceeded slowly through the initial phases of this period (LM II-III A1) with Knossos as the only surviving palace controlling much of central and western Crete. We know a fair amount about the political geography and economy of the island from the Linear B tablets found from a later destruction at Knossos, and it seems that several of the former palaces were taken over as second order centres within the Knossian administration (Bennet 1985). The situation in east Crete is unclear as we have no indication from the Knossos tablets that they were administering this area and no toponyms have been identified which may match towns in this area.

### ***Changing Places - The Expansion of Mycenaean Cultural and Political Influence***

It is the selective Mycenaeanisation of the culture on Crete from early on in the period (LM II), which was the source of the traditional theory of a Mycenaean invasion of the island at the end of LM IB. Mycenaean culture gradually becomes something of a koine throughout the Aegean (Preston 1999). This is seen in the elite material culture, particularly the new ceramic shapes which now appear in quantity on Crete, such as long stemmed kylixes which had previously been found predominantly on the mainland. It is also during this period that clear elite burials on Crete appear, part of a process that has generated much of the Aegean metal vessel corpus both in Crete and on the Greek mainland. This signals a significant change in burial customs, with the funeral arena becoming one of the principal means of social advertisement and advancement (Preston 1999). Once again, this peak in the survival of elite objects, including metal vessels, is the result of a change in behaviour rather than necessarily an increase in their production.

The TPP was a time of the greatest prosperity and expansion of settlement on the Greek mainland in the Bronze Age (Shelmerdine 1997). The palace centres at Mycenae, Tiryns, Pylos, Athens and Thebes reach their zenith during LH IIIA2-B, as seen in an extension and elaboration of the elite material culture and considerable investment in architectural projects. These included the building of the palaces themselves along more monumental lines with such features as the Lion Gate at Mycenae and the inclusion either within or nearby the palace of extensive stores, workshops and archives. As on Crete, the building of monumental tombs such as the Treasury of Atreus and the Tomb of Clytemnestra reflects a focus on the funerary arena as a means of display and consolidation of power by the elites (Voutsaki 1997; Wright 1987), although, as all



these had been robbed, we are no doubt missing a large part of the original corpus of metal vessels.

By far the largest surviving archive on the Greek mainland comes from the final destruction of the palace at Pylos. The evidence of these tablets, supplemented by those from Mycenae, Tiryns and increasingly Thebes, has given us insights into the political geography, social structure, economy, administration and, to an extent, the religion of the Mycenaean states. From this emerges a picture of independent but culturally homogenous states, each headed by a king (*wanax*) and various classes of subordinate nobles (e.g. *basileus*, *telestai*, *lawagetas*), and administered through a body of scribes and officers who oversaw a system of carefully controlled agricultural and craft production. The study of Linear B has resulted in a huge body of information, much of which is still under debate. However, there are two interrelated points that I would like to highlight because, given that the tablets cover the few months prior to Pylos' destruction, they offer hints about the context of the demise of Pylos.

Firstly, the tablets reflect the importance of metals and particularly bronze to the Pylian state, and give us our clearest information regarding the organisation of the industry and the smiths working in it. The Jn series of tablets make it clear the palace carefully controlled fairly small disbursements of bronze to individual smiths within groups located throughout the kingdom, and Chadwick (1976:141) has calculated that the state had access to perhaps nearly 400 smiths. He also suggests that, even allowing for the possibility that these were part time smiths who additionally were not constantly employed by the palace, their annual output would have exceeded domestic requirements, and that this surplus may have been the source of the state's prosperity. Apart from vessels and furniture fittings, the smiths would have made military equipment and armaments for the (*hequetai*) elite troops and others such as perhaps those buried in the warrior tombs at Dendra, Midea and Knossos. This leads to the second point that Pylos was seemingly strengthening its military preparedness as rowers were being mustered (An1), 'watchers' were posted to guard the coast (An 654, An 519, An 656, An 661, An 657), and the palace organised a collection of bronze from district governors and other sources (Jn 829). These give a tantalising indication that the ultimate cause of the destruction at Pylos c.1200 B.C. may have at least partially come by sea.



Although I discuss the textual and pictorial evidence for metal vessels in Chapter 8, there are a few points which should be made here. Palmer concludes that wine, while a relatively common agricultural product, was nevertheless valuable. Its production was not directly controlled by the palaces, but they collected and stored certain quantities (1996:277), and determined to whom and under what circumstances it was used (ibid:278-280). In addition to trade (ibid:283), and its use in perfume making (ibid:275), it was consumed primarily by the elites and high officials, was sent to shrines as offerings to the gods or for feasts, and was only tasted by the general populace very rarely at festivals (ibid:284).

The tablets also refer to some of the gold and silver vessels used in ceremonies, including simple bowls or conical cups (213 vas), a goblet (kylix?) with two handles (215 vas), and a chalice (216 vas).<sup>7</sup> All of these are mentioned on tablet Py TN 316, which deals with items provided to a shrine for use in a ritual. That metal vessels were used in religious ceremonies is perhaps supported by the evidence from pictorial vase paintings of what are thought to be funerals (e.g. Furumark 1941:fig.75; Kilian 1980: fig.2), which show a rhyton, ladle, krater/kylix, jug and chalice, and also depictions on Cretan ceramic larnakes (Kanta 1979:150, fig.63), and it is very likely that these metal vessels were used at Mycenaean funerals to toast the dead with wine (Cavanagh 1998).

This is also the first period for which we have firmer evidence for the social, almost 'symposium' style, use of ornate drinking vessels. That some of these may well have been metal (by comparison with surviving examples), is suggested by those depicted in the Campstool Fresco from Knossos. Interestingly, Wright points out that the vessels shown here include both Mycenaean and Minoan types and he hypothesises the inclusion and education of Mycenaeans by Minoans in the etiquette of social drinking, probably wine (1996:292). The concentration of large quantities of specialised and elaborated drinking equipment and sets in elite contexts during this period (e.g. from the Shaft Graves, other LH II graves, Knossos), fits interestingly with Dietler's theory (discussed in Chapter 2) of the role of alcohol and competitive drinking and feasting in the development of socio-political complexity. As outlined in the previous section, a similar conjunction seems to have operated in Anatolia since the Hittite Old Kingdom period.

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<sup>7</sup> There are extant examples of these except the chalice shape.



The crisis that brought the Mycenaean states to an end seems to start in the mid 13<sup>th</sup> c. with partial destructions at some centres e.g. Mycenae. After this changes were made at the various centres, such as the protection of water systems and the moving of storage facilities closer to the palaces, which seem to indicate they were anticipating a threat. One theory is that the demise of the Mycenaean states was just the end point of a longer period of decline perhaps instigated by the disruption of their trade routes (Dickson 1995:307-8). In this regard it is notable that in the later part of the period, fine metalwork in gold and silver becomes less common (Dickinson 1994:307); indeed, the surviving examples could simply be heirlooms. However, the quantities of bronze vessels retrieved are broadly comparable with those from the preceding period (cf. Figs.7.8, 7.10, 7.11 with Figs 6.6, 6.4).

### *Anatolia - The Aegean West and The Hittite Empire*

During the later LBA south-western Anatolia had a strongly Mycenaean character, as evidenced by the locally made Mycenaean (LH IIIB/IIIC) pottery, numerous chamber tombs cemeteries (e.g.the necropolis of Degirmen Tepe), female figurines, and imported coarseware containers for wine, oil etc. (Gates 1994:292; Mee 1998:139-140). However, there was also an Anatolian influence on the local culture and the site of Miletus illustrates this well. In the second LBA level here, Mycenaean pottery, which is mainly locally made (Gates 1994:292), first appears alongside local wares and the fortification walls are reminiscent of the kastenmauer type walls at contemporary Boğazköy. Nearby at Müsgebi there are Mycenaean-style tombs dating to LH II/III. There is debate over whether this evidence represents Aegean colonisation, the presence of an indigenous eastern Mycenaean enclave or Minoan/Mycenaeanisation (Gates 1994:293; Mee 1998:138-9). If it is due to one of the first two models then the impetus for it may well have been the acquisition of metals, linking to earlier Minoan trade with the Near East (Benzi 1984; Laviosa 1984), or to pre-empt potential Anatolian aggression (Melas 1988:59). It should also be noted that a small amount of LH IIIB pottery has been found at Maşat Hoyuk and Frakdin in central Anatolia, although the nature of the contact that resulted in its presence is unclear (MacQueen 1996:108; Mee 1998:141).

From the Hittite texts it appears there were four or five states in the western area (Arzawa, Assuwa, Mira, Seha River Land and Taruisa. Gates 1994:293-296) whose capitals, on philological and phonological grounds, have been equated with known



antique sites such as Ilios/Troy, Miletus and Ephesus. The implication is that western Anatolia was an integral part of the Aegean world, ruled by independent kings and viewed as such by the Hittites (Gates 1994). Additionally, another aspect of possible Aegean-Hittite involvement that has been suggested is that of hired mercenaries. This is based on the fairly tenuous evidence of a Mycenaean type B sword dating to LH I-II, which was taken as booty following the Hittite conquest of Assuwa and dedicated at Boğazköy. However, there is further evidence of Mycenaean mercenaries in both Anatolia and Egypt (Cline 1994:270-73; Merrillees 1998:152) which, taken together with the other evidence for contact, makes the almost total lack of Hittite objects in the Aegean even more surprising.

The Hittite Empire flourished at this time along much the same trajectory as in the previous period, becoming an international power that participated in the ultimate diplomatic 'gift' exchange of royal marriages with Egypt. This and the repeated military campaigns conducted in this period would have meant that it was more important than ever to consolidate trade routes and maintain the tin supply. The loss of the Isuwa copper mines in the east to the Assyrians, pressure on the northern borders by the Kashka people, and the loss of the north western tin supply route following the independence of the western states would all have contributed to a gradual weakening of the Hittite state. A reflection of this is perhaps seen in the context of the Kastamonu hoard, a large collection of silver vessels containing several rhyta which, it is believed, may represent the looting of a Hittite temple by Kashka (see Chapter 7). This period of increasing instability in Anatolia, accompanied by repeated failed harvests due to climatic disturbances (Gorny 1989), coincided with migrations/invasions from the north west down through the Aegean and eastern Mediterranean, creating a period of widespread socio-political flux. Troy VI was destroyed and the fortifications at Miletus were enlarged in the third LBA level (=LH IIIB), enclosing a larger area, followed by this site's subsequent destruction (correlating with LH IIIC). These disruptions gradually cut off the Hittites' trade routes, which contributed to the fall of the Hittite Empire (Macqueen 1996:49-51)

### 3.5 Conclusion

In addition to the wide-ranging political changes that occurred during the Bronze Age, this survey has served to highlight one particular socio-cultural trajectory. The Early Bronze Age in both regions was a time when we see the first indications of true social



differentiation, as witnessed through the acquisition and symbolic treatment of exotic and valuable items of material culture. With the emergence of palace-administered societies in the second millennium came more visible and reified hierarchies, and a concomitant need by the elites to find new mechanisms by which to legitimise their position and maintain their power bases. A ready-made template for this had existed in the much older established societies of the Near East, Mesopotamia and Egypt in particular, in the forms of elite artefacts and behaviour. Early exposure to these cultures and their practices through trade, most likely principally that in metals, enabled the emerging elites of the Aegean and Anatolia to learn about these and gain sufficient wealth to participate in these practices. Central to these markers of status was the knowledge of, and the ability to acquire, valuable and/or exotic commodities. In the next four Chapters I discuss the metal vessel corpora for the two regions before exploring their relationship to ceramic skeuomorphs, alcohol and these social transformations.



## **Chapter 4 - Aegean and Anatolian Metal Vessels of the Early Bronze Age**

The purpose of the present chapter is to characterise the EBA metal vessels, which I propose played a central role in the early stages of the socio-cultural changes outlined in section 3.1 above. Building on the information provided in the catalogues located in Appendix 2, my aim here, as well as in the three subsequent chapters, is to analyse the differences and similarities within and between three areas (central and western Anatolia and the Aegean), particularly in terms of style, technology, function and distribution. Other important considerations are the contrasts in depositional contexts, the comparative quantity of finds and variety of forms in the EBA and how we can account for these very distinct differences.

These aims have therefore dictated how, for the sake of clarity when discussing a complex combination of issues concerning a large body of material, the information should be presented. Due to the much greater quantity of vessels from EBA Anatolia, this information is presented first, primarily subdivided into the two geographical areas which the material approximately falls into in terms of distribution. However, this is not an entirely arbitrary decision as I intend to show that the material actually demonstrates such regionalism in style, and also to an extent in the materials and techniques employed. Both this section and that concerning the Aegean material is further subdivided to address systematically the questions mentioned in the previous paragraph, and in this way more readily enable comparison of the different aspects of the evidence from both regions. The chapter concludes with a summary characterisation, a tentative theory regarding the role of metal vessels here and in the wider world system in the EBA, and returns to the question of the contrast in quantities in the three areas.

### **4.1.1 Overview of the Central Anatolian Corpus (Fig. 4.1 and Table 4.1)**

Apart from a lead Syrian bottle fragment from Tarsus, all the EBA material comes from the north part of the central area, and is further concentrated in a relatively small area east of the bend in the Halys river around modern Çorum which, coincidentally or not, is also today known as a centre for metal vessel production using traditional techniques. These central area items come principally from just nine sites very closely located to each other, and of these, Alaca accounts for approximately 45% of the total and



Horoztepe another 21%. The picture is therefore of two 'hot spots' in which these prestige items pooled through their use as grave gifts. It would seem that the six other minor sites in the neighbourhood which also used metal vessels as grave goods were unable, in general, to acquire either the same variety, quality or quantity of vessels. Additionally, with the exception of Amasya/Mahmatlar which produced two vessels, both in gold, Alaca is the focus for gold vessels in the region. Given the exceptional degree of wealth represented by the grave gifts in the 'royal' tombs at Alaca, and the economic and symbolic power<sup>8</sup> this most likely connoted, it may be that this distribution pattern of metal vessels reflects control by this site of both metallurgical knowledge and resources located further afield. In this regard, the strong stylistic and technological affinities between the Mahmatlar jugs and vessels from Alaca is perhaps suggestive.

As noted in Chapter 3, Alaca is generally interpreted as the nucleus of a north central area settlement hierarchy and possible seat of local rulers (Yakar 2000:21). Based on similarities between the gold and silver work here, in particular the animal figurines, and that found at Maikop, it has been postulated that the people behind this culture originated in Caucasia and that many of the objects in the tombs were acquired through trade with this area (Chernykh 1978; Frankfort 1970:211; Kelly-Buccellati 1990:119). Other scholars view them as undoubtedly indigenous products (Yakar 1984; Toker & Öztürk 1992:20), either produced locally or imported from somewhere to the north by the Black Sea. Whatever the case, the fact remains that both the vessels and the jewellery show great expertise in a variety of techniques including inlay, alloying, plating, open work, incision and so forth, as well as a very individual stylistic character specific to this area. In view of this, their restricted local distribution at other sites in the area, and also the rich mineral deposits in the immediate region (De Jesus 1980:64-65), it seems reasonable to postulate that the rich and powerful urban site of Alaca was able to attract and engage some of the best metal smiths of the period.

Despite the sudden and temporally restricted appearance of the Alaca material, its level of sophistication strongly indicates that the working of precious metals and bronze in this area began much earlier than the mid-late EB II. These vessels and jewellery

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<sup>8</sup> The 'standards' found in several of the graves have recently been reinterpreted by Gareth Darbyshire (forthcoming) as symbolic ornaments mounted on the carts buried in the graves, rather than pole-mounted ones that were processed. In this case it may be that each standard, rather than being a generic symbol used in ritual was more closely associated with the person in whose grave they were deposited.



represent the very developed products of a long tradition that may even have begun in EB I. During EB III gold vessels cease but we have evidence of bronze vessels of this period from Horoztepe. Although a variety of different techniques are still manifest in these items, a downturn in their overall quality and finesse can be perceived (De Jesus 1980:89).

On the subject of the local availability of raw materials, archaeometric studies have found that a very rich seam of copper in the Tokat-Erbaa area near Horoztepe was first mined c.5,000 B.C. and continued to be exploited for thousands of years (Kaptan 1990:77). In this regard it is interesting to note that just as gold pooled at Alaca, so bronze vessels seem to have subsequently at Horoztepe, and it is possible that the copper for these came from the mine at Erbaa (ibid: 77).

#### 4.1.2 Restudy of Alaca Material (Table 4.2)

In June 2000 I was permitted to restudy some of the metal vessels excavated at Alaca<sup>9</sup>, most of which had been published in the early reports (Arık 1935,1937; Koşay 1944,1951). The latter often gave only minimal information, accompanied sometimes by indistinct photographs, and I identified approximately 33 published objects which I felt particularly needed examining and re-photographing. An annotated summary of these is given in Table 4.1, and I would draw attention to the fact that some on this list could not be examined either because they were gold and/or in display cabinets, or else were missing. Despite these limitations, it was possible to make many observations which I have incorporated into the relevant sections below, as well as some corrections to the original descriptions (e.g. the metal used, the form of the vessel), both of which are summarised in Table 4.1. Three of the items I studied warrant individual mention.

The first is the large round bronze pan with curled handles (cat.no.56 type 28a). Koşay described this as a large round lid with a hinge, but I have identified it as a wide shallow pan for two reasons. Firstly he noted only one curled piece extending from the rim, which he thought was a hinge, even though hinges are not known on any BA metal vessels including the silver lid from OATC Boğazköy (cat.no.301). However, there are in fact two of these and when the surviving pieces of the pan are reconstructed it becomes apparent that these were placed on opposite sides of the vessel from each

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<sup>9</sup> It is not museum policy to allow the gold vessels, which are in display cabinets, to be examined. See notes at the end of Table 4.2



other, so could not have acted as hinges. Secondly, ergonomically these curled handles are designed for the fingers to cup and support them on the open underside, a position from which it is comfortable to lift the vessel. If this were a lid, the hands would have to curl over the handles in an unnatural way, also making it difficult to lift the pan, which originally may have weighed as much as 4kg.

This vessel is exceptional for its period anywhere in the Near East, both in terms of its design but more particularly for its size. The smith(s) who made this must have been very experienced and accomplished in order to be able to handle such a large amount of metal in one piece. Just as with pottery making, it takes a several generations for such knowledge of the necessary skills to accumulate within a craft tradition before individual craftspeople would be able to manipulate successfully such a large quantity of material. Additionally, this piece indicates the existence at Alaca of an individual or group, wealthy and powerful enough to be able to devote such a large quantity of metal to one piece. Interestingly, the only comparable piece is an almost identical pan (cat.no.77) from Horoztepe which, as noted above, was located close to a source of copper.

In terms of function, these vessels would most likely have been used for cooking a large amount of food, or for heating an equally large quantity of liquid. Given their find context, they may have been used in a funerary feast. While more obviously cauldron-shaped vessels are not apparent in the EBA Anatolian corpus, I propose that the Alaca and Horoztepe pans, as well as other vessels from Horoztepe and Troy (cat.nos.62, 157,161), may have been used for this purpose. It is possible also that the rounded situla (cat.no.64 type 32a), which has the hook and pierced lug type of basket handle attachment similar in concept to those seen on MBA cauldrons from Kültepe, was used for a similar purpose. This is based on its size, wide mouth and/or depth and the metal used (bronze rather than gold or silver). All of these vessels are of quite different shapes that may indicate different cooking habits, and are therefore classed separately in my typology (types 43a, 17a, 31a respectively). In the ensuing periods, cauldrons take forms that are more readily recognisable as such to the modern eye, whereas, if my functional identification is correct, in the EBA the Anatolian vessels used for this purpose had not yet assumed a set of standardised forms. The appearance at this early time of, albeit only a few, metal vessels which were made for more mundane/practical purposes, is noteworthy in the light of a wider contemporary horizon of display vessels



used most likely for the manipulation of liquids in general, and social drinking in particular. This perhaps lends further support to my contention (see further below) that the extant corpus of EBA Anatolian metal vessels, rather than representing the first fruits of a new component in the material culture, are the results of a slightly longer tradition of making such items.

The second notable item, the silver bird-shaped rhyton with gold base and 'beak' (cat.no.41), is a unique vessel for this period both in form and function. This item has the same museum inventory number as the vessel listed by Koşay as a silver ovoid jug decorated on the body with concentric incised ovals. I believe that this confusion probably stems from the pieces having been unreconstructed when Koşay examined them for his 1951 publication and, given the predilection for beak-spouted jugs at Alaca, he interpreted this as another example of this regionally distinctive form. The vessel has subsequently been reconstructed from many small pieces and there are many other pieces still not joined which are also decorated with the same pattern of ribbing. However, these pieces seem to be of a different alloy of silver, judging by the colour, texture and surface oxides present. Additionally, the ribs and their spacing on these pieces are very much wider than any of the longitudinal ribs on the bird vessel, which together served to create the impression of wing feathers. Therefore, these pieces probably belong to a different vessel, as do the three rim pieces I identified which look like they are from the rim of a jug. In view of the vessels' very fragmentary state in the 1940's, the presence of jug rim pieces and the unprecedented bird shape for a vessel, Koşay's erroneous interpretation is understandable. Furthermore, I suggest that the ribbed silver pieces which do not seem to belong to this bird-shaped vessel, may be the very fragmentary remains of a silver arcaded jug, but as it was not possible to ascertain this for certain I have not included them as a separate item in my catalogue.

This vessel has been termed a rhyton by Çınaroğlu, despite its not having a hole in its base, but later Hittite seal impressions show beak-spouted jugs being used for this purpose, so the lack of a lower exit hole need not preclude such a function for this vessel. Given the funerary context of both this and all the other vessels from Alaca, this item and any of the jugs may have actually been used for ritual/libations purposes. Moreover, one piece of albeit later, and somewhat extrapolated evidence, presented by Çınaroğlu might tip the balance in favour of this bird vessel having originally been used as a rhyton. He notes: "...the goddess Kubaba (Kybele), whose name appears in the



second millennium B.C., is associated with a bird in the Iron Age. We wonder if this funerary gift is associated with an earlier stage of the Kubaba cult." (1989:64).

The reconstructed part of the vessel resembles a somewhat abstract rendering of a standing bird with its wings folded by its sides and behind it. Hence, one side of the vessel is mainly convex with the front of the bird being very gently concave. A head, if this existed, is missing from the point of the upper shoulders and breast. The feet were not modelled but rather the vessel tapers to a narrow cylindrical base covered in a cap of gold foil. That a handle (now missing) was attached is indicated by an upper terminus on the concave side of the vessel. The angle of the surviving upper handle terminus indicates that it curved down towards the lower part of the vessel, although no lower terminus now exists. Wing feathers were rendered by the application of repoussé ribs of varying width along the length of the vessel. Arcades of ribs to the left and right of the handle terminus curve out and round it tapering in width and converging towards the base. The wing feather tips are continued onto and conclude on the gold overlay base. The width between the ribs varies from the top to the bottom and their width also depend on their location on the vessel. For example, in the breast area, and also to the left of the handle terminus, the gaps between the ribs are bigger. Hammer marks on the gold base cap indicate it was made from a thin piece of sheet hammered, after which it was folded over the bottom of the silver vessel and pressed to shape. The join was not soldered but left as a raw overlapping edge. The top edge of the gold cap is also unfinished. That these details were left in a somewhat unfinished state is a little curious given the considerable skill of the Alaca metalsmiths, evidenced by a large corpus of vessels, ornaments and jewellery in a variety of metals. The feather design is continued onto the gold cap and this was most likely made by pressing it into the existing pattern on the silver vessel underneath and finishing it with some final tooling on the top. From Koşay's report it is not possible to tell whether the scratch marks I noted on the vessel are the result of ancient or modern cleaning procedures.

The third item has not been included in my catalogue as it does not constitute a vessel in its own right, but it gives an interesting insight into the metal vessel aesthetic at Alaca. I refer here to the silver open-work casing fragments which would most likely have been attached to wooden boxes (Fig.4.3). In this case there was some confusion over their recording in the museum inventory book (their being given the same accession



number as a beak-spouted jug cat.no.40), and Koşay does not list them in his publications.

The casing is angular, consisting of plain, straight bands and X-shaped crosses in 70mm square frames, and these would necessarily have had to be fitted to a square or rectangular-shaped object. In addition, from other small fragments it appears there may also have been a border of small open boxes and also a plain border which is 13mm wide. All of this lattice work was made of thin hammered sheet which was then cut out to shape and the edges filed smooth and slightly rounded. There are some faint but definite score marks which may indicate that the pattern was drawn on the underside of the pieces before being cut out. The corner of each square frame has a very small tapering rivet in it for attaching the casing, and unless the vessel this casing covered was made of lead, it would have been extremely difficult to fix all these rivets neatly without distorting the shape of a metal vessel, and therefore they probably covered a wooden vessel. We do not have any evidence in this period for ceramic or metal vessels in these shapes.

There are a couple of instances of small, thin, open-work gold foil casings for vessels from Alaca (Al.1030; Anatolian Civilisations Museum no.11681) which are cup-shaped and may have been intended as covers for metal or ceramic vessels. In these cases there are no signs of rivets and it would seem that the vessel was intended to nestle in the casing, perhaps with the help of some form of glue, rather than being firmly attached to it. In total these pieces weigh 295.55g. I also found some other vessel fittings in the box containing the fragments of cat.nos. 60 and 61 (Koşay 1944 no. Al/a MA73a/b). These consist of wide flat strips decorated with rows and zig-zags of dots punched from the underside with rivet attachments, as well as plain strips. Other bronze examples, consisting of rectangles filled with sets of open-work crosses, are displayed in a case at the museum. Combined with the copper vessel/furniture feet found in Tomb K (Koşay 1951 no.K28), these vessel fittings indicate that at Alaca, in addition to solid metal vessels, there was a taste for embellishing wooden containers, and also possibly items of furniture, through the application of metal casings. It is possible that these boxes were made of rare and precious woods and that the application of metal further enriched them in terms of value and appearance. My researches have not uncovered similar items at any other contemporary Anatolian site and these items further accentuate the greater



variety and wealth witnessed at Alaca compared to neighbouring sites (see further section 4.1.3 below).

#### 4.1.3 Vessel Forms and Functions

Based on the typology of vessels I have devised, the central Anatolian corpus contains fourteen more types than western Anatolia (Tables 4.1 and 4.3). However, what is most immediately notable about the vessels from this area is the considerable amount of low level diversity within these types. This was achieved not simply by the addition of a foot here or handle there, but through the seemingly continual experimentation on the part of the metalsmiths who used different permutations of a set of formal and stylistic elements to create vessels which fitted within the parameters of a functional type, such as a cup, but were just a little more individual from the next one. For example, there are ten types of drinking vessels represented<sup>10</sup>, and apart from the beakers and chalices, the rest consist of combinations of formal elements including shallow or deeper bowls, with/without carination/everted rim and handle(s) most often extended in one piece with and from the rim. This effect is compounded on the stylistic level by the application, for example, of handles with differing cross-section shapes, variety of curvatures, some attached only at the lower terminus, and others attached only at the top. Furthermore, the occasional use of different permutations of a restricted set of decorative motifs, serves to further differentiate pieces. However, because the diversity was achieved by using permutations of a culturally recognised set of forms and decorative motifs, the central area corpus nevertheless has a homogenous, stylistically cohesive and consistent appearance. This makes it possible to attribute more securely unprovenanced pieces to the workshops of this area and also to identify more readily those pieces which at the very least show strong external influences or are possibly even imports.

The single most characteristic formal detail of these vessels is the handle which is formed in one piece as an extension of the rim (e.g. type nos. 12b, 12d, 26a, 35a, 35c). It either curves upwards and then down into only a half circle so that it would rest over the fingers of a hand, or else is fully formed into a loop through which the fingers would go, and is variously attached, or not, to the body of the vessel at its lower terminus (cat.nos.17, 18). The idea of this type of handle is also seen on the platter from Horoztepe. A variation on this handle is seen on the silver one-handled cup from Alaca

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<sup>10</sup> This does not include the hemispherical bowls which may also have fulfilled this function. An orthostat relief from second millennium Alaca shows a ruler drinking from a shallow, hemispherical bowl (Gorny 1996:fig.11.11)



(cat.no.14) and another unprovenanced one that may be from Horoztepe (cat.no.121); in both cases the handle is attached by the lower terminus to the belly of the vessel and curves upwards. The latter unprovenanced cup is very sturdy and elaborated with the incised abutting triangle pattern, whereas on two simpler bronze cups from Merzifon (cat.nos.107, 108) the handle is quite flimsy and not so skilfully made. Another shape which is distinctively central Anatolian, and is common in the ceramic repertoire also, is the beak-spouted jug (types 35a, 35c). This too is varied in the body shape, either spherical or more oval/piriform, and the handle is always formed as an extension of the rim (cf. cat.nos.40, 42,), as with the cups, but is also attached at the shoulder.

In general the vessel shapes suggest that their function was largely connected with the manipulation of liquids in a social context, that is, mixing, pouring and drinking shapes as opposed to storage shapes. The small to medium size of the vessels also supports this view. Spoons and ladles are also present and may have been used for stirring and also decanting liquids from larger bowls to either jugs or drinking vessels. While the bronze pans may have been used for roasting food such as nuts and seeds to be consumed with the drinks, or else heating the drinks themselves, it is unlikely that the electrum pan from Eskiypar (cat.no.94) was used for this purpose and was more likely a display item, most likely having been imported from the Troad (cf. below).

The number of types of drinking vessels is particularly striking and raises the question as to why it was thought that so many different types were necessary. The reason could be connected either with different types of beverage consumed; the cups with handles for hot drinks, chalices, bowls and beakers for cold drinks, and perhaps even further sub-divided in much the same way as today we have different sizes and styles of glasses for white and red wines, for sherry and port etc. Alternatively, the variety could be connected with gender, age or position within the social hierarchy. Residue analyses and more comprehensive skeletal analysis would assist in answering this question but are unlikely to be forthcoming.

#### **4.1.4 Decoration**

As already briefly mentioned, the style of decoration on the central Anatolian vessels is a characteristic which distinguishes it from the work of the western workshops. Decoration is applied to just over half of the corpus (Table 4.4); at Alaca it is restricted to vessels of gold and silver or those made of a combination of the two, and does not



appear on copper and bronze vessels. In fact, 13 of the 14 gold, and all of the silver with gold, Alaca vessels, have some form of decoration. Decoration is further restricted to drinking and pouring vessels (Table 4.8), with the exception of a spoon with a decorated handle and some rim fragments, which may in any case have come from a vessel used for drinking. In the rest of the north central area the only exceptions to these patterns occur either on unique pieces (e.g. the silver mussel shell-shaped platter from Eskiypar, and the bronze fruitstands from Horoztepe), or else at sites which in any case have only produced bronze vessels (e.g. Polatlı, Kayapinar, Horoztepe). The decoration consists of various combinations of the same range of six symbols, including the swastika, herringbone, multiple-lined zig-zag, running spiral, abutting triangle and crescent, accompanied by cross-hatching and parallel lines. In general it is applied very thickly, giving a very intense overall appearance, and it is this which is distinctive about the vessels of this area.

This visual intensity was achieved firstly, by the repeating of a single motif very closely spaced in horizontal registers, or in the case of the herringbone, by very closely spacing the chevrons both vertically and horizontally all over the body of the vessel. Secondly, closely-spaced multiple registers of motifs were placed one above the other, sometimes alternating the motifs used. One of the necked bowls (cat.no.28), also from Alaca, has its body covered in narrowly placed repoussé arcades which again creates a densely decorative appearance. Another vessel, which by its decoration and volute handle attachments suggests that it was imported, perhaps from the west, is the silver 'teapot' from Alaca which is decorated with writhing snakes (cat.no.33). Other unique forms of decoration include the gold necked bowl which had carnelian beads studded with gold pins around the edge of the carination (cat.no.29), the combination of both gold and silver in the body of a necked bowl (cat.no.30) and the gilding of a cup handle (cat.no.3), all from Alaca. The swastika appears on the base of a beak-spouted jug from Alaca (cat.no.34) and also Amasya-Mahmatlar (cat.no.101), underlining the affinity of the latter's vessels to those of Alaca. In addition to these more obvious forms of decoration, there is also low-level elaboration as seen on the curled handles with raised ribs on the shallow pan (cat.no.77), the small knobs on globular cups (cat.nos.67-70), and the bottoms of legs on the two table-like stands from Horoztepe which are finished to look like booted feet (cat.nos.80,81).



In conclusion, I suspect that the decoration of particularly the Alaca vessels fulfilled two purposes: firstly, the distinctive intense syntax conveyed a message about the origin of these vessels and secondly, it added further value, as did the workmanship displayed through it, to these already prestige items and differentiated each piece so that each one was an unmistakeably unique item. A tentative interpretation from the above patterns of co-variance of metal, vessel type and decoration, and their restricted distribution, is that funerary sumptuary behaviour in the central area was to a large extent controlled by the Alaca elite. This is further reinforced by the distribution of kinds of metal amongst these sites, in particular, the restricted amount of gold and silver occurring outside Alaca (Table 4.6).

#### 4.1.5 Construction Techniques

The advanced metallurgical skills of the metalsmiths are displayed in both the alloys they achieved and the construction techniques used. High quality tin bronzes from a number of north central sites containing between 9-17% tin and no impurities have been analysed by the MTA Institute laboratories (Kaptan 1990:76). Yakar notes that 50% of those pieces from Alaca and Horoztepe analysed were of high- and middle-grade tin bronzes and that in EB III, unlike in the Troad, where tin bronze becomes less common, the north central smiths continued to produce high quality alloys (1985a:31,36). Additionally, they were able to alloy silver and gold to produce high quality electrum.

Most of the vessels found in, and believed to be products of, the north central area, were constructed by hammering up flat plate over a forming stake. Cast examples include the basket-handled situla from Kayapinar (cat.no.89), a situla and jug from Oymaağaç (cat.nos.116, 110), the spout and handle volutes on the squat situla from Alaca (cat.no.33) and the bell-shaped beakers from Eskiypar (cat.nos.92, 93), for which there are good reasons to suspect that they are imports, probably from the west.<sup>11</sup> Even the components of vessels such as the various types of handles mentioned above were hammered, either as extensions of the rim or soldered to the rim and body. It is noteworthy that rivets are not found on any of the vessels.

Sometimes the joining seams, for example, between the bowl and stem of a goblet, are discernible and it is therefore possible to identify the technique used. However, often the join was intentionally masked and this, combined with the oxidation commonly

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<sup>11</sup> See section 4.1.6 below.



seen particularly on copper/bronze items, obscures the surface, often making it difficult to determine how the joins were made. In the case of the stemmed goblets from Alaca and Mahmatlar, it is possible to see that first the hollow stem was formed by rolling a rectangle of gold into a cylinder and sweat-soldering the seam to make the join less obvious, and then the cup was joined to the stem by soldering also.

Two principal techniques were used to achieve the rich decorative effects. First, incision/engraving was used on the handles of jugs, platters and drinking vessels, and was a popular method also seen on pottery and spindle whorls. Toker and Öztürk have described the second technique as embossing, which differs from repoussé by the action being carried out on the exterior surface of the vessel. It is difficult to be certain which technique was used as each of them can be employed to produce both sharp and rounded contours, although embossing using different shaped punches is usually reserved for flat surfaces such as rims and handles. Furthermore, embossing would have required the added process of the inside of rounded and more closed vessels being filled with a shock-absorbing substance such as bitumen in order to keep the shape of the vessel (S.Beer pers.com.), and without examining the inside of these vessels for residues it is not possible to agree with Toker and Öztürk that this was the technique used. However, on those vessel that I examined, repoussé seems to have been used which, although quite difficult, would have been applied on these vessels first when they were partly raised, and then again when they were finished by using an angled, long-handled tool from the inside.

#### **4.1.6 Depositional Contexts**

All of the metal vessels (and many of the ceramic ones) from Alaca and Horoztepe were found in graves, and most probably those from Polatlı, Mahmatlar and Oymağaç were also.<sup>12</sup> We see a similar correlation between context and vessel form at Yortan, Elmalı and Kussura where ceramic beak-spouted jugs similar to those from the north central area were found in the graves. Toker and Öztürk have suggested that this pattern, combined with what they see as the 'somewhat impractical shape' of this vessel type, perhaps indicates that they were designed and reserved for funerary/ritual purposes such as libation pouring rather than everyday domestic use (Toker & Öztürk 1992:21). Most pertinently in the light of the comments in Chapter 2 regarding ritualised intentional

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<sup>12</sup> These pieces are museum acquisitions and firm evidence regarding their depositional context is not available.



damage, many of the vessels from Horoztepe, as well as some from Alaca, appear to have been crushed or bent out of shape on purpose before deposition in the grave.

Only the metal vessels from Eskiypar come from a non-funerary context, but as these were deposited in a pit under the floor of a house prior to the latter's destruction by fire, and are thus defined as a 'hoard', this case does not give us any further information regarding alternative use contexts for these vessels. Moreover, although the Eskiypar treasure is not on the same scale as several of those found at Troy, it is nevertheless an important find as it is the only site in north central Anatolia from which we have vessels from a non-funerary context. It is also worth noting here that hoards dating to the EBA are numerous throughout the near east, Anatolia and the Aegean (Renfrew 1972).

#### **4.1.7 Inter-regional Influences**

The Eskiypar vessels provide some interesting indications regarding the direction of contacts that existed between north central Anatolia and other regions during EB III. From the extent of the site and the style of architecture, Eskiypar at this time seems to have been a large community and one which, judging by the vessels and jewellery found together, was in a position to establish contacts with Troy and Poliochni to the west and Syria and perhaps even Mesopotamia to the east.

The small electrum pan, although its handle is missing and it is somewhat miniature in size, is nevertheless in form a counterpart of those found in Troy and the Troad. All of the body details, including the base profile and the way the rim tapers at the junction with the broad end of the handle, are so exact that Özgüç and Temizer have suggested it may even have come from the same workshop as the Trojan ones (Özgüç & Temizer 1993:626). In view of the widely held opinion that this type of pan was a northwest Anatolian invention (Antonova et al. 1996; Bittel 1959; Özgüç & Temizer 1993), it therefore seems quite likely that this item was an import. It should also be noted here that bronze pans of similar type were found in tombs 20 and 21 at Assur, but that in addition to the different configuration of omphalos and two/three concentric rings, a much later, post Troy IIg date has been suggested for it (Fig. 4.4; Calmeyer 1977:90; Maxwell-Hyslop 1971:58,70). However, given the durability of metal vessels, and the likelihood that their comparatively higher value than ceramics would encourage longer-term use, a later depositional date for this pan does not necessarily mean a later date of manufacture. In this regard comparisons can be made with the LBA material found in



the EIA Lefkandi burials and the MH kantharoi in the Mycenae Shaft Graves (see Chapter 6). Another type of pan occurs at both Alaca and Horoztepe where they were described as mirrors<sup>13</sup> by the excavators (Özgüç & Akok 1958:44; Koşay 1944:108,121). With respect to the Alaca ones, Mellink sees them as being the result of trade contact with the Cyclades of a secondary nature, whereas Coleman believes that any similarity is purely fortuitous (1985:202), and rather that they are a variation on the two-handled pan from Horoztepe which he sees as an Anatolian invention.

Also not at home in either the ceramic or metal vessel corpus of the north central area are the two bell-shaped beakers. Once again a similarity exists between them and the gold and silver ones from Treasures A and B at Troy, although the latter are more straight-sided. It is also worth noting that two similarly shaped cups<sup>14</sup> dating to the early part of the MBA (2100-1900) have been found in Georgia (Fig. 4.5), and also one in Armenia<sup>15</sup> dating to 2200/2100 B.C. The latter vessels are most obviously different from the Anatolian examples by virtue of their rich decorative elaboration involving, in the case of the gold one from Trialeti, filigree and granulation, techniques which are not unknown in Anatolian EBA jewellery. Like the Eskiypar ones they are footed, but again this detail is also elaborated, being a little longer and finished with a rounded moulding. However, it is the concept of this shape and size of drinking cup which seems to have been held in common in the Transcaucasus and Anatolia, rather than the alternatives such as the stemmed chalice, drinking bowl, depas, one-handled cup etc. Additionally, the Armenian cup, which is slightly more rounded, is decorated with three horizontal registers of chevrons which in engraving method and style are extremely close to, if not the same as, those seen on the gold jug from grave B at Alaca. In view of Chernykh's theory regarding the contacts and cross-fertilisation in metallurgy in what he has termed the Circumpontic Metallurgical Province ('CMP'; Chernykh 1992), we should perhaps view these cups as prestigious items that were developed in the Transcaucasus and subsequently, either in material or conceptual form, dispersed among elites over a wide area. They may have then been produced according to local taste in Anatolia, for example at Troy, where a predilection for undecorated vessels is manifest. The rich decoration of the slightly later-dated Georgian and Armenian examples may simply be a reflection of commonly held tastes in these closely-related cultures, as

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<sup>13</sup> This is an interpretation supported by Mellink (1956:53) who turns this reasoning around to ascribe the same function to the EC 'frying pans'.

<sup>14</sup> One is gold, the other silver and both are from kurgans at Trialeti, south central Georgia.

<sup>15</sup> Made of electrum, from the grand north tumulus at Naïri, Armenia.



surface embellishment of metal vessels is a feature which endures here from earlier in the EBA through to the LBA. Alternatively, it may be a function of the originators of these vessels wanting to maintain a social competitive advantage, differentiating their symbols of prestige through a display of how skilful the craftspeople they controlled were.

Further evidence in this hoard for contact with western Anatolia is seen in the presence of the omphalos bowl. Metal counterparts have been found in the form of a silver one in Troy Treasure A and a bronze one, also from Troy. Ceramic omphalos bowls were used in the north central area at this time, for example, at Ahlatlibel (Koşay 1933:53), Horoztepe (Özgüç & Akok 1958:13) and Alaca (Akurgal 1992:pl.13). The omphaloi on these are very similar to that on the Eskiypar bowl but are smaller than the Troy ones and different in that they are not always surrounded by the concentric rings seen in the latter. In general though, as Özgüç and Temizer (1993:626-627) have noted, of the north central material the Eskiypar hoard contains the closest parallels in shape, technique and materials to Troy and Poliochni in both the vessels and the jewellery. Moreover, Bittel has drawn attention to the similarity between the bronze vessels of the two areas, in particular the spouted, teapot-like vessels (1959:31).

Evidence for contacts in another direction is supplied by the silver Syrian bottle found in the same hoard, which is either the first silver example from the Near East or else a locally made copy of a near eastern shape made in Anatolian silver. Other metal versions found in Anatolia include the fragment from a lead miniature from Tarsus which is roughly contemporary with the Eskiypar one, and those from Horoztepe (cat.nos.85, 86) which, perhaps because their tops are broken off, led their excavators to identify them as jugs, even though there is no evidence for handle attachments and they have pointed bases (Özgüç & Akok 1959:43). Ceramic Syrian bottles were imported into EBII/III levels at Troy and EBIII levels contemporary with Eskiypar at Kültepe where they were used as grave gifts (Mellink 1989). Mellink's analysis of examples found in south and east Anatolia as well as Syria and other parts of the NE has elucidated the various phases in the development of this type. From this she has also identified the likely routes through the Amuq plain and Cilician passes via Tarsus by which contact between Anatolia and Syria, and ultimately Mesopotamia, was conducted (Mellink 1962, 1965). With respect to central Anatolian connections with Mesopotamia it is interesting to note the similarity between the bronze covered stands/tables with



oxen-like legs (cat no. 80) and the 'fruitstand' (cat. nos.82, 83) from Horoztepe, with slightly earlier examples dating to ED III from the royal cemetery at Ur (Müller-Karpe 1993 cat. no. 1201, 1138, 1139). A similarity can also be noted between the method of basket handle attachment on the bridge-spouted situla from Horoztepe (cat.no.64), and numerous examples once again from the royal cemetery Ur (Müller-Karpe 1993:pl.122). Although in the latter cases the double lugs are more tubular, made by the short sides of a rectangular piece of metal being rolled into the centre, the similarity lies in the principle behind the mode of attachment. It is plausible that such ideas, and perhaps even earlier examples which have not survived in the Anatolian record, travelled with Mesopotamian merchants in search of raw materials such as metals which their country lacked and Anatolia had in abundance. Examples of another type of vessel found at Troy which has correlations with vessels from Ur are discussed in section 4.2.6 below.

#### **4.2.1 Overview of the West Anatolia Corpus (Fig.4.2)**

From the analysis of types by site (Table 4.3), it is readily apparent that Troy dominates the distribution picture in terms of quantity of vessels, variety of forms and types of metal used. This may to an extent be due to factors affecting both the deposition of objects at Troy, and the recovery (or lack thereof) of artefacts found elsewhere, a subject which is addressed more fully in the summary below. However, it is undeniable that Troy's strategic geographical position promoted its precocious urban development and wealth, resulting in this site being a magnet for prestige objects in general and metal vessels in particular. In this regard it is interesting that, to date, precious metal vessels have only been found at Troy, and that lead is totally absent in vessel form, whereas it is abundant at another site in this area, Demircihöyük-Sariket. Additionally, the fact that both lead and silver can be extracted from galena ore, and the presence of other lead items at Troy, would therefore suggest that the lack of lead vessels at Troy was the result of a choice rather than non-availability of lead.

#### **4.2.2 Vessel Forms and Functions (Table 4.3)**

Compared to the north central area vessels, the vessels from the western area show less variety both in the number of different types (44 versus 30 types) and in terms of within-type diversity. For example, if we put aside for one moment the three unique drinking vessels (cat.nos 148, 158, 377, types 5a, 30b, 6a respectively), we are left with two other types of vessel that would have been used for drinking (10b, 10e) which, although formally different from each other, are not a drastic stylistic departure but



essentially both handle-less beakers with one type having a foot and the other a flaring neck. The depas and the two-spouted sauceboat, on the other hand, can be seen as being both stylistically and functionally very specific items. The unusual form of the sauceboat has often been interpreted as it having been used for shared, social drinking purposes. Similarly, the depas, although found widely in ceramic form, is a very impressive and singular example in metal which would be appropriate also in a high profile, social drinking context.

Variation is not seen in the individual components of the western vessels either. Apart from four examples (the depas, sauceboat, jar with one handle and two-handled cup cat.nos.148, 158 143, 377), handles are generally missing from the drinking shapes at Troy, and even in those cases where they are present, basically the same type of tubular handle is used. In the rest of the corpus we see just five types of handle; the long, bar-like handle of the pans, usually finished at the narrow end with a rotelle; the basket handle of the spouted jars; vertical lug handles; semi-circular and horizontal handles on a bowl. Similarly with footed vessels, the foot is generally fairly simple, short and gently flaring, sometimes finished off with a rounded moulding. The overall impression of the western corpus is therefore one of simple lines, lack of decoration and of stylistic variation or experimentation.

The omphalos is a stylistic feature which is particularly characteristic of the Troadic material. I say stylistic rather than functional, despite interpretations of it having been incorporated either to provide a stable base (Mellink 1956) or as a means of holding it with a couple of fingers in the underside of the omphalos and a thumb balancing the edge (Bittel 1959:22-23). Bittel suggests that the omphalos pans developed from north Syrian omphalos bowls imported to Troy, and that as the form developed in both size and style the handle became necessary, but that the users of this vessel chose to keep the traditional design with omphalos nevertheless. Such a theory is difficult to comment on, as there is nothing of any substance to either support or disprove it.

However, I believe that neither of the functional explanations for the omphalos are convincing for most, let alone all, of the vessels it occurs on. Firstly, other types of base, such as the ring base or a plain flattened surface which occur on a few Troy vessels, provide a stable footing and, given the general tendency towards plainness here, these types would have been the obvious option if stability were the objective.



Secondly, we do not have any evidence in the local ceramic record by which to track the development of these pans and yet their form seems very developed, so we can imagine that previous metal versions existed but were recycled when they became worn. However, we do have the evidence of EC II frying pans and roughly contemporary one-handed pans from Mesopotamia, which at least demonstrate that the concept of a flat-bedded vessel, whether functional or not, was in circulation in ceramic form. If, then, these metal pans were developed in response to a need for a cooking pan with a handle, rather than out of a functionally unrelated shape, the omphalos could not have been designed for ease of handling. In any case, the diameter of the bowl sometimes far exceeds the span possible between thumb and middle finger. These suggestions therefore fall short of a universal explanation for this feature and I am not suggesting that I have the definitive answer to this. However, the lack of clay counterparts for these pans gives weight to the possibility that the metal pans were for a purpose that the clay ones were not suitable for. This may have been for heating a particular kind of food or drink and perhaps the central boss/omphalos may have improved heat distribution or have been to keep the contents away from the central, hottest part of the pan.

In terms of functions, it is noteworthy that pouring shapes in the form of jugs are absent, with the exception of one lead jug from Demircihöyük-Sariket which the excavators have suggested is essentially the bottle shape, common at this site, with a strap handle added. In the light of the Polatlı jugs, which I suggest show evidence of influence from the central area, the Demircihöyük-Sariket jug may be a similar case that was filtered through the lens of local stylistic preferences. Aside from the above examples, essentially only one type of vessel, the footed situla with volutes and basket handle (type 33a), was used for the purpose of pouring. Other than this we have a selection of drinking vessels (types 5a, 6a, 10a, 10b, 10e, 30b), perhaps six shapes (of which three are variations of a basic type) which were used for mixing or presenting liquids (types 1b, 2a, 2b, 2c, 17a, 31a) and the pans which may have been used for cooking with the exception of the small silver one. A further difference is that we have three variations of a shape which may well have been used for the storage as opposed to presentation and pouring of liquids; the round bottle, the cylindrical-necked bottle and the anthropomorphic bottle (types 4a, 4d&4e, 4b respectively) which was made complete with suspension lugs and lid. That another type of small container existed is suggested by the small silver lid (type 63b). The anthropomorphic flasks are among the very few



vessels which have any form of surface elaboration, they are relatively small and all made of precious metals which may infer that their prescribed contents was equally precious. The funerary context of the lead bottles from Demircihöyük may also suggest that these contained a precious substance such as a sweet-smelling unguent, in which case a lid may not have been required. However, the alternative is that an organic stopper was originally provided, if the idea was that the contents would be used by the deceased in the next life.

#### **4.2.3 Decoration (Tables 4.5 and 4.7)**

In contrast to the vessels of the north-central region, and perhaps in line with the local western aesthetic, these vessels display almost no surface embellishment. The most obvious exception is the silver/electrum two-handled cup (unprovenanced), which has very bold vertical arcading worked in repoussé around the body, and which in form combines various components found in other Trojan vessels but with a quite outlandish result. Stylistically it is also exceptional because of the two colours of metal used and technically because it is the first example of gilding from this area, a technique also known at Alaca and Ur. Although the inventiveness and technical expertise displayed in this piece, and its hybrid nature are not necessarily out of place at Troy, it goes against what appears to have been the stylistic idiom of lack of adornment. Although it seems to have been accepted as a canonical piece (Muscarella 1974), these factors combined with its lack of provenance make me a little wary of it as a Troadic product, although it is possible that it was an import.

Other decorative features include vertical and diagonal ribbing on two gold beakers, and the vertical ribbing on both the body and lid of a silver anthropomorphic bottle. This decoration was made by hammering from the inside of the vessel. However, this type of decoration is executed in such a subtle way that it does not distract the eye from the form of the vessels, which again seems to have been the priority of the designers. Finally, there is the rotelle terminus on pan handles, and volute handle attachments on spouted vessels, both of which seem to be more stylistic conventions specifically applied to the type of vessel they appear on and no others.



#### 4.2.4 Construction Techniques

By far the majority of vessel bodies were hammered up from plate over raising stakes, with progressively smaller heads in the case of cups and more closed vessels. The notable exceptions to this are the Demircihöyük lead vessels which were without exception cast, but this is more than likely due to the fact that lead cracks easily when hammered (Baykal-Seeher & Seeher 1998:116). In the Troad casting was used for making certain components of vessels such as spouts and volute handle attachments which were then soldered onto the hammered body. Perhaps the use of soldering to join such relatively heavy pieces as the volutes to the body is partly why these pieces became detached from the vessel. In this regard it is notable that many of the handles of the pans were also found broken off. Similarly, the strength derived from casting combined with the fact these parts were much thicker than the pan walls perhaps explains why they survived in better condition than the rest of the vessel.

Soldering seems to have been most consistently used as a method for joining vessel components on a variety of objects. The ring bases of bowls, lug handles, and tubular handles were all joined in this way. In the case of the last, which is seen on the depas, sauceboat and two-handled cup, plate was folded to form facets and soldered along the long inner edge before the ends were flattened into triangular shapes and soldered to the vessel. In contrast to this, rivets were used to join the horizontal handles to the rim of the concave-sided bowl (cat.no.157), and the rotelles to the long handles of the pans. In the latter case the end of the handle was fed through a slot made in the bridge between the rotelle heads, and rivets hammered through the centre of the latter from the outside. This is noteworthy and intriguing when one considers that in ceramic skeuomorphs, especially jugs, clay rivets seem to have been a favoured way of referencing metallic models (of which more later in Chapter 8). The expertise and diversity of techniques employed by the Trojan metal-smiths is also demonstrated by the high quality alloys produced, including electrum, as well as the combined use of two metals on a single vessel and gilding.

#### 4.2.5 Depositional Contexts

A degree of confusion surrounded the discovery and recording of the treasures at Troy in which the metal vessels were found, a situation which was compounded by the subsequent illegal exportation of some of them, their loss and final rediscovery (Antonova 1996; Easton 1981; 1992; 1994). This has had repercussions for our



understanding of which components actually belonged to the same vessel and which vessels belonged to which treasures, not to mention our understanding of their overall context. However, research by the leading authority on this subject seems to have finally resolved most of these questions and I have followed his attributions in my catalogue (Easton 1984). As is well known, the vessels were found in three 'treasures', that is hoards, which were deposited prior to the destruction of Troy IIg. The ramifications of this form of depositional practice on the received distribution picture is discussed more fully in the summary below.

As for the rest of the corpus, it either definitely or allegedly comes from funerary contexts. The Troadic material lacks a definite provenance, having been excavated illegally and acquired through a dealer in Çanakkale, and although it is not sure if it came from tombs or hoards, Bittel is inclined to believe that the tomb option is more plausible (Bittel 1959:1). Because of the means of their discovery, Bittel also believes that the amount acquired does not represent the total original quantity either deposited or recovered. They are also very thin-walled and fragile so it is possible that much was lost at the time of their excavation and that this also accounts for why it is only the more solid parts which have been preserved. In his study of this material, Bittel grouped together the components which he believes originated on the same vessel and from this we can be quite sure of the number of vessels represented in the surviving fragmentary material. Based on technical and construction similarities with the Troy material he concluded that they were contemporary. The Demircihöyük lead vessels are the result of much more recent excavations and all come from securely dated graves.

#### **4.2.6 Inter-regional Influences**

Although somewhat on the eastern fringe of what can be considered western Anatolia, several aspects of the material culture at Polatlı, including the metal vessels, show affinities with that of the western region, with very few solid links to that of the north central region. Barring its handle, the miniature flat-rimmed jug (cat no. 100) is essentially a bronze version of the many lead bottles found at Demircihöyük and also at Küçük Höyük. It has the same spherical body and cylindrical neck as the bottles but its vertical strap handle makes it something of a hybrid form between a bottle and a jug, in much the same way as the jug from Demircihöyük (cat no.203), although the latter is cut off at an angle more reminiscent of the beak-spouted jugs (Baykal-Seeher & Seeher 1998:117/118 Abb. 1.12).



On the other hand, Toker and Öztürk believe that the herringbone decoration on the handle and shoulder of the miniature beak-spouted jug from Polatlı (cat no. 99) is similar to that on the gold jug from Alaca (cat. no.55), and that perhaps this indicates some kind of contact between the two sites (Toker & Öztürk 1992:21). However, although the idea of the herringbone decoration and the choice of its placement on the handle is obviously similar, the technique used and therefore the final style in which the motif is executed are quite different with the result that the two decorations are only superficially similar. On the Alaca jug the smith has used a fine pointed graver to achieve a very precise, vertically repeated chevron bordered on both outer edges by a thin vertical channel. The diagonal marks on the Polatlı vessel, however, are bolder and look more as if they were made by a curved tool being impressed onto the metal rather than a graver point having carved into the metal; additionally, they are divided by a central vertical channel.

Having said this, I would suggest that another aspect of the vessel's construction gives a stronger indication of influence or contact between the smiths at these sites. As mentioned above, the practice of forming handles on jugs and cups by extending a piece of the rim outwards is characteristic of the smiths of the north central area and this seems to have been the way the handle was formed on the Polatlı vessel.

Turning now to indications of influences/contacts between western Anatolia with areas external to Asia Minor, the possible connections with the CMP/Transcaucasia as evidenced by the bell-shaped beakers (type 10f), has already been discussed in section 4.1.6 above. Additional indications of interactions between the two areas is suggested by firstly the round-bottomed jar with short flaring neck (type 2b), which is similar in both form and construction to examples found in the kurgan burials at Maikop (Munçayev 1975). In both cases, hammering was used to raise the vessel from sheet. This is significant because these vessels could equally as well have been produced by casting, a technique used by the smiths of this culture for producing weapons and figurines (Chernykh 1992:67-71). One of the undecorated Maikop vessels (ibid:35.10) appears to have had its neck joined using rivets. However, the similarity is limited by the fact that the necks of the Maikop vessels are less flaring and also decoration appears on one of the Maikop vessels (ibid:36.2). Nevertheless, it is worth considering the possibility, as an alternative scenario, that these vessels indicate on some level a flow of



ideas and contact between these two sites as the form of the Maikop jars is very similar to that of the Troy jars.

The second indication of a connection between the Maikop area and western Anatolia is seen in the lead bottle found at Demircihöyük. Although there are differences in form (for example, there is no horizontal rim on the more oval Maikop examples), it is the concept of a long-necked flask which is the common thread. The Demircihöyük bottles, however, are cast as opposed to hammered, but, as mentioned earlier, this may be due to the nature of lead which cracks easily when hammered (Baykal-Seeher & Seeher 1998:116). The choice of lead for such a large number of objects is also interesting. It may be that because of its low melting point it was easy to cast and perhaps the local smiths were not so technologically advanced as their Troadic counterparts. More likely, however, is that there was a large deposit of lead locally (Seeher pers.comm.) and the smiths were aware of the behaviour of this metal and so the choice of casting was actually a very informed decision.

With respect to connections with Mesopotamia, the similarity in technique and style of the Troy jewellery with that found particularly at the royal cemetery of Ur is a point that has been accepted for some time (Maxwell-Hyslop 1971, Mellink 1956). With this in mind, the many examples of bronze oval bowls from Ur which are essentially the same shape as the Troy sauceboat, minus its spouts and handle, is suggestive. This is particularly the case when on close inspection we find fictile ribs running along the length of the underside of the bowl, hammered out from the inside in much the same way as the sauceboat. Additionally, the Ur bowls also have an oval foot hammered out from inside also. The difference then, is the addition of the two spouts and tubular handles to the Troy vessel, which can be argued are both Aegean adaptations of this shape. The tubular handles are found on other metal vessels from Troy (the depas, a jar with handle cat.no.143, the two-handled cup), and the spout, although it usually only occurs singly, is seen on both gold sauceboats from the Greek mainland, and ceramic ones throughout the Aegean and western coastal Anatolia. A more essential difference between the Ur and Troy vessels is that in the former case, the undecorated examples have vertical suspension lugs attached in the middle of both long sides which suggest a quite different function for these vessels.



In summary, I suggest that there was a degree of both aesthetic and technical cross-pollination between western Anatolian and Mesopotamia, perhaps through a high-level trade in precious materials. The oval bowl with its non-functional, longitudinal ribs is a very distinctive shape to have been independently and simultaneously produced by two cultures so far apart. Similarly, the vertical lugs, which could have been constructed quite differently, indicate that a choice was made to make them in such a specific way.

Finally, it is necessary to mention the exceptional evidence of the two supposed royal tombs at Dorak, which are not included in the catalogue. Firstly, it should be noted that there are considerable authentication problems associated with these finds which have led many to discount them as fakes. They are occasionally mentioned in literature concerning the metallurgical history of Anatolia (De Jesus 1980:89), but are not included in any catalogues, and for these reasons I too have omitted them from mine. However, if genuine, the material allegedly from these tombs, which Mellaart dated to EB II/III, is tantalising with regard to the connections they suggest with sites both within and outside Anatolia. Firstly the gold depas from tomb 1, and the silver one from tomb 2 appear from the illustrations (Mellaart 1959:figs.9, 14) to be very close cousins of the numerous tall, concave-sided cups from the royal cemetery at Ur (Müller-Karpe 1993:table 156) but with the addition of a strap form of the depas handle. This would make it a Mesopotamian/Trojan/ Aegean hybrid. The silver bird vase with gold spout and ribbing is not illustrated but sounds reminiscent of the gold and silver bird rhyton from tomb L at Alaca (Cat.no.41 Çınaroğlu 1989) which, most likely due to its very fragmentary state at the time, was recorded as a beak-spouted jug in the original excavation report. Secondly, the cross design on the bottom of the silver juglet and vertical arcading/ribbing on the gold cup from tomb 2 are features found on a gold vessel from the north central area (Toker & Öztürk 1992:50). The dubious circumstances surrounding their 'discovery' combined with the unbelievably neat correlation of these and other metal and ceramic pieces which either echo the vessels of other regions,<sup>16</sup> or else fit exactly into the Trojan and Yortan assemblages, certainly raises suspicions. However, the mention of the bird vessel, unparalleled anywhere in the EBA at the time the Dorak material was published, and the publication of the partially reconstructed and reinterpreted Alaca 'bird' vessel thirty years later, is intriguing.

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<sup>16</sup> The Alaca and Troy finds had been published quite some time before the Dorak finds.



#### 4.2.7 Summary

This review of the metal vessel corpus supports the view of the EBA in Anatolia as a time of distinctive geographical groupings of artefacts and architecture ('cultures'), underpinned by shared responses to the wide-ranging social changes of the time through the manipulation of material culture. Although some of the techniques used, and certainly the resultant regional styles, differed to a large extent, what is similar in both areas is the propensity of one site to rise above its neighbours in terms of its wealth and power and consequent ability to either attract, or develop and support skilled craftspeople. The uneven distribution of metal vessels thus to an extent mirrors the geographically uneven social and economic development of the time. Having said this, because of the lack of habitation remains from most of the north central area sites, it is not possible to draw a correlation between the ancient importance of a site (indicated by other indices such as site size, monumental architecture, defences), and the quantity and variety of metal vessels found there. In the Aegean too, there is minimal correlation between site size/importance and the discovery of metal vessels (e.g. none have been found at Knossos), although several examples were found on islands in the Erimonisia zone of interaction. Such a correlation is apparent in the case of Troy.

The corpus also provides further evidence for inter-area contact between the west and north central areas, and also the directions in which inter-regional trade and contact was conducted by the Anatolian communities. The material expressions of ideas and influences garnered by means of this contact have been discussed with reference to particular items from Horoztepe and Troy. In general, the study of these vessels provides us with another window through which to view the social processes of the time, with the concept of world systems theory in mind (Sherratt 1993). These processes involved elites gathering around them versions of inter-regionally recognised symbols of prestige which were driven, if not established, by the core area of Mesopotamia. The social display and manipulation of them gave access to desirable social spheres and practices, raising the players' local profile and hence power, which in turn fed back into their ability to participate at an inter-regional level. In the following section we see through a similar examination of the metal vessels to what extent the Aegean, located on the periphery of this world system, was making attempts to participate in these social competitions.



### 4.3.1 Overview of the Aegean Corpus

Compared with Anatolia, little more than a handful of metal vessels from the EBA Aegean has survived in the archaeological record (Table 4.9, Fig. 4.6). Of the fourteen vessels listed by Branigan (1974), eight have no provenance, having been acquired through dealers, and thus the question of individual pieces' authenticity needs to be factored into any discussion which draws on the evidence they provide. In one case, that of the gold sauceboat allegedly found near Heraea in Arcadia, circumstantial evidence allows us to be more confident regarding the piece's authenticity, as it was acquired prior to the earliest excavated ceramic sauceboats (Childe 1924).

Unfortunately, it is not possible to resolve the question marks hanging over all of the other unprovenanced pieces. Firstly, although the two silver shallow, necked-bowls with everted rim in the New York Metropolitan Museum find a close comparison in the securely provenanced example from cist grave D at Kapros on Amorgos, they were acquired sixty years after the latter was first published (Davis 1977:63). Moreover, Davis believes that their large size (26.6 and 22.25 cms diameter) also militates against their being authentic, an objection which on its own I do not feel should be substantiated. On the other hand, she suggests that their style of decoration would be in tune with their having a Cycladic origin (*ibid*:63), another observation with which I disagree. I discuss the question of these vessels' possible origin, and that of the similarly unprovenanced Benaki bowls, in section 4.3.6 below.

If we give the unprovenanced vessels the benefit of the doubt we can summarise the distribution of extant vessels as follows: -the sauceboat and large rounded, necked-bowl shapes all in gold from the mainland; shallow bowls with concave neck and everted rim, small chalice, spoon and shallow bowls all in silver from the Cyclades, and a silver cup and lead bowl from Crete.

### 4.3.2 Vessel Forms and Functions

The Aegean corpus consists of a very limited range of one pouring shape, two drinking shapes (the handleless cup and chalice) and variations on the necked bowls. Of the latter type, the shallow ones could have been used for presenting food, but the deep Benaki bowls possibly could have been used for presenting/mixing liquids as they are more enclosed. However, I wonder whether the lip shape might have been impractical for decanting liquids from them and this, combined with their relatively small size, suggests



that they may have been used in conjunction with a drinking tube as seen in the MBA seal impressions from Kültepe (Gorny 1996:157 figs 11.2 & 11.3). Were it not for the large size of the silver bowls in the Metropolitan Museum, it would be possible to see them as drinking bowls, a function which is attested at contemporary Alaca (Gorny 1996:166 fig. 11.11). Equally, the small hemispherical bowls could well have been used for this purpose also. The one-off scallop shell, which as it is fragmentary may well be the bottom of an arcaded bowl, could have the same function as the shallow bowls or else acted as a display item. With this in mind, and given the prestige associated with metal vessels, it seems reasonable, in the light of comments made in Chapter 3, to connect the function of these bowls and the other Aegean vessels more specifically with the practice of social drinking of wine and other alcoholic beverages that was emerging in the region at this time (Sherratt 1987a).

### 4.3.3 Decoration

In general the Aegean vessels are characterised by a lack of surface decoration, the emphasis of the smiths seemingly being on the shape. However, on four vessels there appear two variations on a triangular theme: the broad horizontal zig-zag across the upper belly on the Benaki bowls (Fig. 4.7), a fine herringbone pattern on the three facets of the handle of the sauceboat from near Heraea, and what I have termed the abutting hatched triangle on one of the silver bowls in the Metropolitan Museum (Fig. 4.8). The sauceboat handle was engraved and in the other cases the decoration was achieved through incision whereby a small quantity of the metal is removed and the pattern is therefore deeper. Stylistic inter-craft correlations of these and their implications for possible inter-regional influences are discussed further in section 4.3.6.

### 4.3.4 Construction Techniques

Although Branigan states that Aegean EBA metal vessels incorporated welding/soldering in their construction (Branigan 1974:91), this is actually rather misleading as the only examples come from Troy/the Troad, with this technique being completely absent in the examples found in the southern Aegean. This evidently reflects a technological choice made on the part of the smith, as fusion/soldering is known from both contemporary Cretan and mainland jewellery (Davis 1977:59,66). This choice was perhaps made because fusion had until this point only been applied to small links/rings, and there may have been doubts over how strong, and therefore reliable, such a join on a vessel handle would have been. Such doubts about this technology may not have been



unfounded in view of the number of spouts, volutes and handles found separated from the vessels they belonged to amongst the Troadic material.

All but one of the 15 vessels from the EBA Aegean were raised from plate through hammering up, most likely using raising stakes with a variety of sizes of rounded heads. The traditional process would have involved the used of progressively smaller sizes of stake as the vessel rose and was gathered in, or alternatively, different sizes/shapes were used to achieve shaping such as carination. There are no known instances of vessels made of pieces of plate either riveted or soldered together as seen in later periods. However, the chalice(s?)<sup>17</sup> from Notina which are now missing may well have been joined in one of these ways unless, which seems unlikely, they were made of one piece as the technically expert examples from Alaca were. The single possible cast example is the cup/bowl from Mochlos, although this is only inferred from Seager's description which, as it mentions rows of 'beading' decoration, but not repoussé, suggests that the vessel was cast (Davis 1977:67). Unfortunately, this vessel is not on museum display. That this technique was known on Crete at this time is supported by the evidence for a cast ear scoop (Branigan 1974 cat. no. 1279) and shaft-hole axes and axe-adzes dating to EM II. Davis suggests that both this technique and the forms of the tools ultimately derived from either Mesopotamia or Iran. This cup is believed to be of local Minoan shape based on ceramic evidence (Davis 1977:66 footnote 167).

A slightly different technique seems to have been used in the case of the gold sauceboats. Davis says that they were hammered up from gold plate, with one side of the body being extended to form the spout (1977:59-60). However, the simplicity of this description hides the fact that such initial symmetrical raising followed by one side being further hammered up would result in noticeably uneven wall thicknesses, which is not the case. Smith's view that these vessels were made by the elongated spout being incorporated into the two-dimensional shape that the original piece of plate was cut into before raising, is perhaps more plausible (Smith 1975:32-35). Yet another possibility suggested by a gold and silversmith who uses traditional production methods (Simon Beer pers. comm.) is that the vessel could have been raised symmetrically, the shape cut from this and the profile of the spout lip produced by re-annealing this part and gently hammering it out. A ring base was also hammered out of the bottom and a rectangular-

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<sup>17</sup> Davis notes that in fact two silver goblets were excavated at Notina and not one as Strong states, but does not give any references to this (Davis 1977:61).



section rod was used to make the horizontal handle. This was flattened at either end where it would be attached to the vessel handle opposite the spout just under the rim. The two gold sauceboats reportedly from the southern mainland differ from the Trojan one in that instead of fusion being used to attach the handles, two rivets with slightly rounded heads were employed. Another difference is that these two examples did not have the midrib running under the length of the belly incorporated in the construction as the Troy one did. The above discussion presents a picture of a nascent craft using basic techniques, concentrating on form rather than surface elaboration, and not yet applying the decorative techniques already explored through the contemporary jewellery.

#### 4.3.5 Depositional Contexts

Due to the lack of provenance of all but six of the vessels, very little can be said on this subject. However, it is notable that, with the exception of the one small hemispherical cup from a tomb at Mochlos, it is only in the Cyclades, and then only on one island (Amorgos), that any metal vessels whatsoever are finding their way into the ground by means of burial practices. Whether this was due to a regional difference in what was deemed appropriate as a grave gift, or whether this was due to differential access to either the idea of this practice or the level of affluence that would permit the removal of such valuable objects from circulation, is a question that must remain open.

#### 4.3.6 Inter-regional Influences

In view of the overall simplicity of forms of the EBA Aegean metal vessels, and combined with their general lack of decoration, it may seem that there are few clues to suggest any form of extra-Aegean influence on the corpus. However, a closer consideration of five of the bowls gives very strong indications not simply of Anatolian influence, but that they were imported products from the north central area. These are the one silver and two gold bowls in the Benaki Museum,<sup>18</sup> and the two silver bowls with which they were apparently found in Euboea, that are now in the Metropolitan Museum, New York.

Having noted that a question mark hovers over the authenticity of the Benaki bowls, Davis outlines her evidence for them being Aegean productions. She draws attention to the similarity between them and a Neolithic incised bowl from Sitagroi in Northern Greece, both in terms of the incised ornament and the omphalos in the base (Davis

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<sup>18</sup> Hereafter referred to simply as the Benaki bowls.



1977:65; Renfrew 1970:fig.21.C), a similarity which I propose is both superficial and coincidental. She also briefly notes that the two gold Benaki bowls are similar to a ceramic vessel from Alaca (see Fig.4.9) but does not pursue this line of enquiry. Comparison of the latter with, in particular, the first Benaki bowl (Davis cat. no. 8) indeed reveals how very close is this similarity. In addition to the similarity in form, the incised diagonal lines curve from the shoulder to the base in a bold way to encompass much of the belly of the vessels. On both, horizontal grooves demarcate the upper terminus of this decoration. Additionally, on both vessels different sets of diagonal lines abut each other, rather than just follow each other in chevron style. Furthermore, when we extend the comparison of the Benaki bowl to Anatolian metal vessels, we find several contemporary examples from Alaca and Horoztepe (cat nos 28,29,30,32,66) which echo the shape. As on some cup handles from Alaca, the decoration was made by incising the pattern on the outer surface of the vessels, although in the case of the Benaki bowls this was rather deeper and so more reminiscent of incised decoration on pottery. This could suggest that its decorative inspiration is the result of the convergence of both metal and ceramic influences. Alternatively, the reason that incision was used on the Benaki bowl as opposed to repoussé is perhaps due to the very thick walls of the vessel, which could tolerate such cutting into, but which would make repoussé nigh-on impossible. Turning to the second gold Benaki bowl (Davis cat. no. 9) we see that its shape could also be at home both in the ceramic and metal corpus of Anatolia. The multiple-line, broadly spaced zig-zag decoration which covers the belly can also be compared to the decoration on the shoulder of a small gold beak-spouted jug from Mahmatlar (cat.no.101). Additionally, on both vessels there are horizontal lines ringing the neck.

Furthermore, I also find the presence of an omphalos on the Benaki bowls a little curious. Davis does admit that apart from the Sitagroi bowl, omphaloi are absent from Aegean pottery at this time and also from Aegean metalwork (1977:65). This contrasts with the situation in Anatolia where they are found in the pottery<sup>19</sup> and metalwork. For example, an omphalos is a feature of a silver bowl in the Eskiypar treasure (cat no.96), a bronze bowl from Horoztepe (cat. no. 66), silver bowls from Troy (cat.nos.131-135), silver bowl of Troy II type (unprovenanced. cat no. 225), and several bronze, long-

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<sup>19</sup> For e.g. Etihokuşu (Orthmann 1963 taf 28 6/04), Ahlatlibel (ibid taf 25 5/53) Polatli (ibid. taf.35 8/42), Troad (Bittel 1959:23); Horoztepe (Koşay & Akok 1958 p.13 fig. 18), Eskiypar (Özgüç & Temizer 1993p.627).



handled pans from the Troad (cat.nos. 217,218). Even allowing for the possibility that vessels with omphaloi were either made in, or in circulation in the EBA Aegean but have not survived for the reasons outlined in Chapter 3, it is curious that we see no reflection of this very metallic feature in the Aegean pottery repertoire, yet we do in Anatolian pottery. This could of course be due to choices made by potters based on perceptions of their customers' aesthetic predilections, but surely not on perceptions of what was and was not 'metallic'. Davis notes that they were probably made by beating over a mould and so the omphalos was not a necessity in, and hence not a result of, the production process. We are therefore left with the options that the omphalos was included in the design for either aesthetic or handling purposes, the latter point having been suggested by Bittel in connection with the bowls and long-handled pans from the Troad (1959:22-23). However, the omphalos on the first gold bowl really is neither useful nor ornamental. Firstly, it is very small, almost vestigial, and given the bulbous shape of the vessel it would probably have been impractical to hold the vessel making use of the omphalos by placing one or two fingers in it and a thumb on the rim. Secondly, unlike the Anatolian vessels with omphaloi, this bowl is a semi-closed shape and hence the omphalos would not have been visible unless the vessel were inverted. The other gold and silver Benaki bowls are somewhat more open so the omphalos would have been more readily visible. Nevertheless, I would question the practicality of handling using the omphalos also on these vessels.

The Benaki vessels are therefore something of an enigma. On the one hand they have no precedent in the Aegean yet there are comparable examples and features in both the ceramic and metal vessel corpora of Anatolia. On the other hand they lack the finesse and skill in construction and decoration which is so apparent in many Anatolian metal vessels of this period, and additionally seem to misapply a feature found in the latter.

The three Benaki bowls were, according to the dealer from whom they were acquired in 1946, found in Euboea together with the two silver Metropolitan Museum dishes/shallow bowls which have a slightly raised neck and everted rim. The decoration on one of the latter consists of an alternating 'abutting-triangle' and vertical lines incised pattern around the shallow, bulbous belly area, and vertical lines and chevrons on the other. This former pattern consists of approximately five diagonal rills which extend between the baseline of the pattern and the side of the next group of rills slanting in the opposite direction, thus forming a continuous band of abutting triangles. In Davis'



opinion, the ornamentation on these bowls "point rather to a Cycladic provenance." (Davis 1977:63) But although incision in EC pottery was a common form of decoration, and triangles/zig-zags in particular, I think that the style of these triangles is quite different. For example, there is an example dating to the Kampos phase of a vessel with a rounded base and raised neck which has similarities in form to the Benaki bowls, in particular Davis Cat. no. 8, but the pattern of the triangular/zig-zag incised decoration on the Kampos vessel, which is typical of EC pottery, is much more of a herringbone pattern (Higgins 1977:54,fig. 51). We also see this close herring-bone pattern in repoussé on the famous gold, beak-spouted jug from one of the Alaca graves (cat.no.34). The point I am making here about the decoration of the two gold Benaki bowls is that, while triangular incised decoration on EBA Aegean, and to an extent also EBA Anatolian, pottery is widespread, and we also see counterparts of the latter in repoussé on Anatolian metal vessels, the style and syntax differs on the pottery of the two regions. The 'abutting triangle' type is found on numerous north-central Anatolian EBA metal vessels and is quite distinct from the zig/zag decoration on Aegean EBA pottery. Therefore, the form in which it appears on the two gold Benaki bowls and the one silver bowl points strongly and directly to the decorative style of north central Antolia.

It is unfortunate that the three Benaki and two Metropolitan Museum vessels comprise the sum of Aegean vessels of this type for comparison, especially as there is some question concerning their authenticity. However, if we accept their authenticity (unless or until proved otherwise), I would suggest that not only their provenance but possibly also their origin should be questioned. Based on the points raised above, I wonder whether we should consider the possibility that these five 'Euboean' metal vessels are not as straight-forwardly Aegean as Davis proposes. In fact, nearly thirty years ago Immerwahr stated that the Benaki bowls are "almost certainly Anatolian imports to Euboea at the beginning of the copper age." (Immerwahr 1971:10). However, due to their mixed Anatolian and Cycladic affinities, and the fact that the Amorgos bowl, which has a fairly solid provenance, is very similar to one of the Metropolitan Museum bowls, I would suggest a slightly different scenario. All five may have been either Anatolian productions which stylistically either coincided with or were adapted to the Cycladic taste, or Cycladic made, based on items learned about during the course of trade/exchange with Anatolians. Dickinson further suggests that the knowledge of how to make metal vessels may have been introduced from Anatolia (1994:136). In this



regard it is worth remembering the apparent penchant of Cycladic metal smiths for working in silver (Branigan 1974:109), whereas the two decorated Benaki bowls that are central to this discussion are both of gold.

#### 4.4 Conclusions and Comparative Analysis

One of the remarkable features of this period in Anatolia is that the metal smiths augment a repertoire of metal products, that had been established for over a thousand years, with the introduction of metal vessels. Until the mid-late EB II this repertoire consisted largely of functional items such as weapons and tools, as well as some pieces of simple jewellery, which although technically competent show little stylistic flare. A varied array of vessels then appears in the archaeological record over a relatively short period of time, approximately 2500 to 2200 B.C. When considered in conjunction with the large quantity of jewellery, standards, figurines etc. found in several cases with the vessels, it is easy to see how this is usually interpreted as a horizon of dramatically increased wealth enabling an exponential leap in production and technological development. However, there are several reasons why we should question whether this is a distorted view of the reality that prevailed, and whether in fact metal vessels were more widespread and had in fact been in circulation prior to this time (Nakou 1997).

As a starting point we need to consider the particular depositional processes and recovery factors which have effected what and how much has been preserved and found. Despite over a hundred years of archaeological investigation in western Turkey, it is only now being realised that the apparent gap in EBA sites on the west coast is illusory and that there are most likely dozens, if not hundreds of sites lying under in some cases in excess of 20 metres of alluvium in this area (Kayan, Urla 1997).<sup>20</sup> Given the many natural harbours that would have existed along this coast and the rich metallic mineral deposits known in the Troad and around Izmir (Lengeranli, Urla 1997), it would not be surprising to find many more metal vessels emerging from future excavations in this area. In view of the evidence from both Liman Tepe and Bakla Tepe for contact with the EBA communities of the Aegean, future discoveries of metal vessels from this area may well alter our perceptions regarding the geographic and temporal distribution of styles and techniques. Another rather obvious factor affecting recovery, particularly

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<sup>20</sup> This and the citation to Lengeranli refers to papers presented at a conference on the Neolithic, Chalcolithic and BA of the Aegean and Anatolia in October 1997 at Urla, Turkey, and is included in the references section.



in the case of metal vessels and in the north central area, is that of tomb robbing, as seen at cemeteries such as Yortan.

Perhaps one of the strongest factors skewing the received picture in the Troad is the exceptional circumstances by which most of the material came to be deposited and thereby preserved. If these vessels had not been deliberately buried as 'hoards' for, presumably, safe keeping prior to the destruction of Troy IIg the likelihood is that we would never have known of their existence. This is particularly the case in view of the widespread practice of recycling metals in antiquity and the lack of burials belonging to this settlement.<sup>21</sup> In a similar vein, it is largely because the inhabitants of Alaca and Horoztepe practised intra-mural burial, at least for their elite, that we have such a large and varied sample of the output of the smiths of the north central area. The next largest deposit is the 'hoard' from Eskiypar. Hence, if in the Troad metal vessels had been left to run the usual cycle of use, recycling, remaking, recycling perhaps into other objects, Troy would perhaps not dominate the picture for western Anatolia as it does. Thus the very geographically restricted peaks we see in this period are partly the result of 'recovery traps', that is, purposeful human action aimed at preserving or removing from circulation these precious items. Therefore, this factor combined with those outlined above relating to the chance of recovery, may indicate that the received picture, which highlights poolings of, and gaps in, metal vessel distribution may not be a totally accurate reflection of the ancient situation. While it is undeniable that Troy and the Alaca/ Horoztepe area, due to a combination of political and geological factors resulting from their geographical location, were magnets for prestige goods and the craftspeople that made them, future discoveries may reveal other similar 'hot spots'. In the meantime, the picture that does emerge from the metal vessels of these two discrete areas in Anatolia, is that there were elites controlling the production and local distribution of prestige items.

Returning to the question of whether metal vessels had been in circulation in Anatolia prior to this late EB II horizon, it is notable that these vessels on the whole do not have the appearance of the first efforts of smiths new to the craft. Rather, many are quite developed forms with, particularly in the north central area, a particularly distinct decorative style. While it could be argued that a degree of this is due to the metal

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<sup>21</sup> No extra-mural cemetery has been found at Troy; only 6 intra-mural burials (all children) dating to Troy I and a similar number dating to Troy II, one of which was an adult female have been found, none with any grave gifts



vessels drawing on established ceramic shapes, such as the necked bowl and beak-spouted jug, others, such as the stemmed goblet and cup with loop handle that extends from the rim, do not have ceramic prototypes or counterparts. Additionally, as the technique used to craft a metal vessel is quite different from that for a pottery one, it seems unlikely that there would have been significant between-craft learning in this respect. Even within those metal types that can be seen to have drawn on ceramic shapes, there is evidence for elaboration and experimentation, as in the case of necked bowls which vary in neck length, degree of carination and lip evertion, and type of base. Rather than this variation being a sign of on-going development I suggest that, because it occurs predominantly on display items in precious metals, it is an indication of a desire to create differentiation within an established shape of prestige vessel.

In the case of the material from western Anatolia we see different degrees of development in the craft, which can be viewed as a continuum from vessels whose shapes derive from the traditional, established craft of pottery (e.g. hemispherical bowls), through to those which are wholly metallic inventions (e.g. situlae, long-handled pans, anthropomorphic bottles and large spouted vessels with volutes and basket handle). Starting with the former class, it is also possible to detect how metal smiths may have taken aspects of the shapes produced by potters and used this as a starting point for their own products. For example, there is nothing inherently metallic about the lead bottles from Demircihöyük and Küçük Höyük, the rounded shape and elongated neck being easily achievable and 'natural' in clay. Perhaps this is one of the reasons why lead, a very soft and malleable material, was used to make these. Other indications of a longer metallurgical development include the construction, finishing and gilding techniques of the flared beakers, sauceboat and two-handled cup which suggest the work of experienced smiths drawing on an established body of technical knowledge and stylistic experience.

Additionally, while the long-handled pan is certainly a metallic innovation, as are the anthropomorphic bottles and large spouted vessels with volutes and basket handle, they appear on the scene in a very developed form. The fact that the numerous extant examples show virtually no deviation perhaps indicates that a well established and accepted pattern for these types of vessel existed by this stage. Finally, several of the pieces from Troy show evidence of repairs, indicating that these items were in use for some time before their deposition.



It would thus seem that there are indications that the initial superficial impression of a horizon of rich centres suddenly producing a corpus of actually very technically and stylistically developed metal vessels is misleading. Some of the metal vessels from Troy that seem to have a more immediate relationship to the existing ceramics are perhaps examples of earlier products while others, discussed above, as well as those from the north central area, are more developed and were perhaps, therefore, produced sooner before their deposition. In the case of the unusual hook and pierced lug type of basket handle attachment, this has a wide geographical and temporal distribution extending from EBA Anatolia and Mesopotamia, through MBA Georgia to LH I Greece (Collon 1982; see further Chapters 5 and 6), suggesting that in the Troy examples, we witness the introduction of a new feature and technique. In other words, some of the vessels, and certainly the craft of raising vessels, was not new to north west Anatolia in the late EB II/early EB III, and these items are reflections of a wealth and knowledge that was instigated earlier in the EBA. Furthermore, some of the vessels from Troy, including the gold sauceboat, show signs of repair and therefore their find context represents only a terminus ante quem for their production and use, and again lends support to the idea that these vessels had been in circulation for some time prior to their deposition. Additional support for this argument is found in Nakou's observation that as metal goods did not have the funerary purpose in the north Aegean/Troy area that they did in neighbouring areas, the Troy 'hoard' must represent a "palimpsest(s) of material which was current for considerable time" (1997:637). A similar conclusion can perhaps also be reached for the material from Alaca which, based on its technical sophistication and developed and very distinct style, must also represent a long tradition. In this case, at least some of the vessels may well have been used during the lifetimes of the dead with whom they were buried, if not their immediate ancestors.

Connected with the common but perhaps questionable assumption of a sudden horizon of wealth and prosperity at this time is the belief that the quantity and style of these vessels represent exponential developmental leaps in regionally restricted industries or schools of metallurgy. While technical and formal differences between vessels from the north west and north central areas are quite apparent, this belief carries with it the assumption that the two 'industries' were totally independent 'home grown' ones, that is, indigenous phenomena. If these were totally indigenous movements then it would seem that we are on the whole missing the initial, less accomplished examples and less



developed forms which perhaps succumbed to the crucible again before they could be deposited. Rather, given the evidence for contemporary contacts between both the north central area and the Transcaucasus, and Troy and south eastern Europe,<sup>22</sup> both of which areas were metallurgically highly advanced, it is possible to see how specialised, exotic knowledge could have arrived and wrought such changes in the products of Anatolian metallurgy in a relatively short space of time. In either case this change in the material culture represents an innovation in two spheres of experience in the societies involved: technically, the motor skills used by the smiths, and socio-culturally, an extension/shift in perception regarding what metals and new forms of material culture could be used for, and achieved through them.

In terms of techniques, some of the pre-existing skills and technologies such as soldering, riveting and casting could be transferred to this new branch of smithing, but raising or sinking vessels from plate would have involved quite new and different ways of dealing with metal. Although the basic principle of hammering sheet to make jewellery or to finish off a cast shape was already known, creating a hollow vessel shape using a form underneath the plate, and adapting the way of hammering to achieve a delicacy of precision, would have been a totally new skill to master. Also, whereas several implements could be produced relatively quickly by casting moulds, plate for a vessel had first to be hammered out to a uniform thickness before it was raised or sunk, which alone is a very time-consuming process.

Planishing, to remove hammer marks and create a smoothed surface,<sup>23</sup> would also have involved learning new ways of controlling hands and tools and might also have necessitated the development of a new tool to accomplish it, such as a rawhide hammer. Additionally, by virtue of the fact that most of these vessels were intended as prestige display items, greater care had to be taken over finishing details such as joins, a point which is compounded when one considers the small size of some of the vessels.

The latter point concerning the relative delicacy of work involved, perhaps raises the possibility that it was jewellers who adapted their skills to vessel making as they were used to working both on a very small scale and also with the precious metals in which many of the vessels are crafted. Alternatively, a scenario is possible whereby the two

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<sup>22</sup> This evidence is outlined in Chapter 2 but cf. Trifonov 1994 and Chernykh 1992

<sup>23</sup> For example, the Troy sauceboat show hammering marks on the inside but these have been removed on the exterior.



branches of metal craftspeople, smiths and jewellers, pooled their knowledge of metals and skills in order to produce this new class of product.

This leads us to the question of the disparity in quantity, variety and geographic distribution of metal vessels both within Anatolia, and between Anatolia and the Aegean. The latter disparity is even more accentuated when we consider that six<sup>24</sup> of the fourteen Aegean vessels are permutations of the necked bowl, a shape which is found in the north central Anatolian ceramic and metal repertoires and which, as outlined above, may even be products of the latter area. Even the possibility of recycling in the Aegean and the variables associated with archaeological recovery does not begin to account for the difference. Other factors and explanatory avenues therefore remain to be explored in an attempt to account for this situation. However, because of the ambiguous nature of the evidence, combined with the socio-cultural complexity of the period, it may appear that there are more questions than solid conclusions.

The first is to consider what processes were responsible for the deposition of the Aegean vessels and whether these differed from those operating in Anatolia. As noted above, in Anatolia, 'hoards' founded prior to settlement destructions (Troy and Eskiypar) and graves (Alaca and Horoztepe etc.) account for the majority of the material. In the Aegean we have both of these depositional opportunities, and most likely a larger number of excavated burial contexts, and yet they did not result in the same patterning. There are a considerable number of hoards widely distributed in the EBA Aegean (see Renfrew 1972 for summary), but not one has produced a metal vessel.

The tombs on Crete and the mainland do not in general suggest obvious indications of a high/wealthy material culture, with the exception of the jewellery including gold diadems at Mochlos. Also, the weapons and utensils contained in these tombs, and particularly the gold of the Mochlos ones, represent a relatively large quantity of metal and seem to indicate that metal items other than vessels were the grave-gift of choice. Combined with the absence of metal vessels in Aegean hoards, I propose that rather than inappropriate for burial, they were in fact genuinely very rare in these parts of the Aegean region, and thus rarely got into the archaeological record. In support of this, it

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<sup>24</sup> This number includes the three Benaki bowls, the two Metropolitan Museum bowls and the one silver bowl from Kapros, Amorgos (Davis 1977:cat.no.3)



is notable that no metal vessels were 'trapped' in the destructions at Lerna III, Tiryns and other sites.

There is also ample evidence for EC II-III burials (Dickinson 1994:211-12), many of which were provided with a range of stone, metal and pottery gifts, but metal vessels have only been found in three graves on just one Cycladic island, Amorgos. At this time the Cyclades cannot be characterised as a backwater, as they were involved in the acquisition and manipulation of prestige items of material culture for the purposes of social competition and enhancement. The Cyclades were at the hub of what Renfrew termed the 'international spirit' (1972:451), with good sources of metal and participating in trade and exchange with various parts of the Aegean, including the metallurgically rich and advanced Troy as well as possibly other parts of the west coast of Anatolia.<sup>25</sup> Moreover, some Cycladic communities were actively participating in intra- and inter-community, competitive cycles of conspicuous consumption through the wholesale destruction of prestige goods such as at Dhaskalio-Kavos (Broodbank 1993:325; 2000:chapter 8), but were evidently not choosing metal vessels for this purpose. Taking the Amorgian evidence into account, and the high degree of connection and resource access enjoyed by the Cyclades, I suggest that the lack of metal vessels was less to do with availability, and more to do with choices connected to notions of appropriate behaviour in the funerary realm. The latter centres on negative evidence and is thus difficult to pin down, but such an idea of appropriateness may have been based on sumptuary reasons, although these cannot be proven. Overall, the paucity of Aegean finds is odd given the existence of Aegean metal sources and suggests that the production of metal vessels in the Aegean was not constrained by a lack of raw materials.

A scenario therefore emerges whereby early in the third millennium the Aegean sat perched on the periphery of a world system whose ideology and economy was defined by Mesopotamian socio-political imperatives (Nakou 1997), poised for the dramatic internal social and cultural changes that occurred during EB II. In Anatolia in EBII there already existed elites in distinct geographical areas who were engaging in the acquisition and control of internationally recognised prestige symbols. Furthermore, in

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<sup>25</sup> In addition to the distinctive Troadic pottery forms, particularly the depas and tankard, found in the Cyclades (French 1968; Sherratt & Sherratt 1991), sauceboats of possible Cycladic origin have been found at Liman Tepe as well as non-local folded arm figurines at Troy and Miletus. There is also the proposition of an Anatolian community at Kastri on Syros (Stos-Gale et al. 1984). Further details are outlined in chapter 3 above.



the north central area there is evidence to suggest that by this time any inter-settlement elite competition that may have existed, had been superseded by a situation in which the elite of Alaca monopolised the use of prestige items in funerary contexts, and dictated the quantity, variety and quality of such items available to the elites at other sites. A similar situation could be postulated for Troy. The accessibility to both areas of substantial metallic resources in and around Anatolia, the nodal position of Troy, and the north central area's position en route from the west to the Caucasus, Black Sea and north Mesopotamia meant they were well placed to participate in and benefit from the economic developments of the period. Additionally, Troy was particularly well placed to act as a bridge not only between east and west (Mellink 1998) , but also as a mediator between the metallurgically advanced cultures of south eastern Europe and the Aegean. As Nakou has outlined (1997), it is only in the later third millennium that the southern Aegean connects with this system, while Anatolia has been participating in it and therefore exponentially developing for several hundred years prior to this. Such a scenario would promote unequal development and it is perhaps through this difference that we can begin to understand the disparity in quantity and variety of metal vessels.



## Chapter 5 – Aegean and Anatolian Metal Vessels of the Early Second Millennium

In this chapter what becomes most immediately obvious relative to Chapter 4 is the restriction in both the quantity and geographical distribution of the data. In the Aegean, although the first palaces, their attendant culture and international contacts were becoming established, the evidence for metal vessels is even scantier than in the previous period and restricted to two sites on the north coast of Crete. In Anatolia, Troy is comparatively impoverished, and there is no evidence of the wealth seen in the EBA either in the western area or at any of the north central sites. The evidence for metal vessels is restricted to sites on the central plateau, principally Kültepe Kanesh and Acemhöyük, and in the case of the latter the amount recovered is very small. Certainly it should be remembered that the palaces at both Kültepe and Acemhöyük were emptied prior to their destruction (Özgüç 1999:98,111). Even allowing for the possibility that many examples (possibly those made in precious metals) were lost to us in this way, the fact remains that the overwhelming majority of metal vessels come from Kültepe, with most of the other examples from a single palatial site. This suggests that in the MBA, we again have a situation in which metal vessels were pooling at specific sites of prosperity, rather than being a widely disseminated aspect of the material culture, and that the surviving corpus points to evidence of absence in the wider ancient world as much as absence of evidence today.

It is also worth noting that while the period covered by this chapter, the MBA (including FPP and OATC), is much shorter than the EBA (approx. 250 years v. 1200 years), it seems that metal vessels only started to be made half way through the latter period, ie. EB II. Therefore, the amount of time we are comparing is more like 250 years v. 500-600 years of metal vessel production. Even when viewed this way, the surviving quantities from Anatolia are still proportionately far fewer, being less than a third (EBA=226, MBA=68). The following sections discuss firstly the Aegean corpus, followed by the Anatolian, before comparing the nature of the corpora of the two regions and returning to questions of survival and distribution.

### 5.1.1 Overview of the Anatolian OATC Corpus

The first and most striking impression to be derived from both the catalogue entries and Figs 5.1 and 5.2 is that the surviving metal vessels of this period were both far fewer



and of a much more restricted range of types. Toker and Öztürk comment that there is a continuation in the metallurgical tradition of the preceding millennium (1992:22), although I have found this difficult to substantiate either in terms of the variety, types or techniques used, with the exception of bowls with an omphalos in the base, which represent the continuation of the long tradition started during EBII. However, I agree with their comment that in the surviving material there is a greater proportion of metal vessels produced for everyday use, that is, the bronze and lead ones, and that ultimately their final use is as grave goods, with ceramic skeuomorphs being found in the houses (ibid:22; See further Chapter 8).

This widening of the number and type of utilitarian metal vessels, and their occurrence in non-elite contexts may indicate the emergence of a middle class, typified by the wealthy merchants of Kültepe Karum. Due to their wealth gained through trading activities, this new social class was able to gain access to both sufficient metal to make vessels, and perhaps also to metalsmiths who, irrespective of whether they had previously been tied to working solely for the elite, were now able to make vessels for whoever could afford them. There remains, however, the question as to why there is a lack of vessels in silver and gold. The paucity of them in the palaces and temples of the citadels can be explained by the latter having been removed by their owners prior to the destructions. Their absence in the Karum may have been due to the same reason, but perhaps is more likely due to the greater availability of bronze than precious metals to the merchant classes, to their cost, to the fact that the merchants were exporting most of the available silver to Assyria, or else to the existence of sumptuary laws.

Interestingly, there are very few elaborate, drinking or display-oriented bronze vessels outside of the elite buildings on the citadel and therefore, if such items existed in the palaces and temples, such vessels do not seem to have filtered down to the more general, if affluent, population. There is only one metal vessel from the Karum which was unequivocally used for drinking. This is the beaker with rounded rim and base moulding (cat.no.254) which interestingly echoes the gold beaker found in the monumental building on the mound (cat.no. 255), although it does not have the accentuated concave sides of the latter. This bronze vessel may represent either a case of bottom-up emulation of elite paraphernalia and behaviour, or else have been a gift from someone on the citadel to a particularly influential and wealthy merchant. Unfortunately information that might clarify this, such as the nature and other contents



of the tomb from which it came, is not given in the excavation report. Whatever the case, the absence of gold and silver vessels in the Karum, combined with the evidence for the existence of a wealthy indigenous elite in the citadel, suggests the strong possibility that the circulation and consumption of precious metal display vessels was controlled by the latter.

The next feature to be highlighted is the introduction of cauldrons, which occur in a relatively uniform range of forms from the beginning of this period onwards. They are quite different in form to the four diverse EBA vessels from Troy, Alaca and Horoztepe (types 17a, 26a, 28a, cat.nos. 157, 9, 56, 77), which might plausibly have been used for a similar purpose to the OATC cauldrons. The EBA examples were, with the exception of those from Troy and Eskiypar, all from graves and may have been connected with a funeral feast, whereas the OATC examples come from a mixture of habitation, ritual and funerary contexts, indicating that they were more likely to have been also used in everyday life. A comparison of the most prevalent types extant in the EBA corpus (Tables 4.1, 4.3 include variants within types 4, 10, 12, 13, 15, 20, 34, 35), with those of the whole OATC period (Figs. 5.2, 5.3 include variants within types 15, 21, 27, 43, 44, 46, 47) shows that there is a shift to more preparation and cooking types of vessels, with the ladles perhaps being used in conjunction with the cauldrons and pans.

There is an increase in the number of vessel types in the second part of the period, rising from 15 amongst sites contemporary with Kültepe Karum level II, to 28 in those contemporary with level Ib/a (Figs. 5.1 & 5.2). However, many of these are variations within basic types, and so this represents only a slight broadening of low-level diversity towards the end of the period, with basically the same classes of cauldrons, bowls, pans, buckets and ladles being represented. There is also what appears to be a pooling of both variety of types and quantities of bronze at Kültepe (Figs. 5.3-5.5), but this is probably due in large part to the fortuitous preservation and recovery of its karum.

Finally, the amount of silver vessels found at Acemhöyük compared to those found elsewhere (Fig. 5.4) is notable given that both here and at Kültepe, the citadel buildings were probably emptied prior to their destruction. Is this perhaps an indication of the original wealth of precious, particularly silver, metal vessels that existed here? In this regard it is worth noting that again in the second part of the period (Fig. 5.5), Acemhöyük is the only site where silver vessels are found.



### 5.1.2 Form and Function (Tables 5.1,5.2)

The OATC corpus includes an overwhelming majority of vessels connected with the preparation and cooking of foods, the list (see Table 5.1) predominantly including bowls, pans and cauldrons. Only in the second half of the period do we see anything resembling the display kind of drinking vessel in the form now of the gold beaker and the bronze kantharos from Kültepe citadel and the silver hemispherical cup from Acemhöyük. Examples of the globular cup are found in both level II and Ib, but this is hardly an ostentatious kind of vessel. Thus, the display material likely used for banqueting and social drinking at the level of the ruling elite is almost entirely missing in the earlier phase, although the various base ring, hemispherical and shallow bowls may have been used by the Assyrian merchants in the Karum for similar, hospitality purposes. In the Karum of Kültepe there is no obvious evidence for liquid manipulation, presentation or consumption in vessels, unless the various types of hemispherical, shallow and base ring bowls were used for drinking purposes, as they seemed to have been during the Hittite periods based on glyptic evidence (outlined in section 3.3 above). Even if this were the case there is still a total absence of jugs, situlae and eccentric, 'one-off' type display vessels outside of the citadels.

One major question mark hangs over what forms may have existed in the palaces and temples of sites such as Kültepe and Acemhöyük. We are given a hint in the case of the gold beaker, footed bowl (type 25a), the unusual, almost anthropomorphic-shaped bucket (type 48a) and most especially the wheeled offering stand/trolley. Similarly, the seven silver bowls from a single context at Acemhöyük indicate the kind of volume of vessels made of precious metals that may once have been used in the elites' buildings. One notable absence that most likely existed in bronze, and probably also in gold/silver, are beak-spouted jugs that are commonly seen in glyptic of this and the following periods. The ceramic versions which survive (see Chapter 8) hint at what may once have existed along these lines.

Perhaps the funerary rituals of the Kültepe Karum inhabitants included a form of feast and/or included the notion of provisioning the dead for the next life. The excavator has pointed to the marks and stains found on three vessels (cat.nos. 244, 275, 276) from grave 3, noting that the vessels were full of something when they were burned, and suggesting that this was part of a purification ritual (Özgüç 1950:200). Another



possibility is that the contents were burned as part of a meal or as an offering to/for the dead. Without analysis of the residue, the question over whether the contents were incense or food remains open. It is possible that some of the smaller cauldrons may have been used for heating beverages, also perhaps as part of a funerary feast. In this regard the two bowls with strainer funnel inserts (cat.nos 252, 253), should be mentioned. These are our best indication for the possible manipulation of a substance such as alcohol, their being used perhaps to extract the lees from wine. There is also the footed bowl with small spout which may have been used to separate and/or serve a special drink such as wine. However, the publication is unclear as to where this vessel came from and it is possible that it came from the citadel (Özgüç 1986:73). A metal siphon was also found with the cauldron from Titriş Höyük, suggesting that this vessel was used to prepare something which perhaps required separation. Otherwise bowls, jugs or ladles could have been used to remove the contents to smaller containers, and these do sometimes occur in the same grave as cauldrons, as in the case of a bowl and straight-sided cauldron (cat.nos.274, 269), found in a grave of level II at Kültepe Karum (Özgüç 1959:73).

### 5.1.3 Decoration

The vessels of this period are in general notable for their lack of decoration in terms of patterns or emblems executed in any way, with only one bowl having three horizontal, parallel lines incised under the rim (type 15c, cat.no. 259), and the bronze kantharos (type 11a, cat.no.232) from the citadel which has wide arching handles ribbed all down their length. The few other vessels that are embellished in some way are outlined at the end of this section. What elaboration exists is focused on creating sometimes more complex but still well defined shapes such as the base ring and strainer insert bowls. However, there is none of the low level elaboration previously seen in the EBA Central Anatolian material and, in addition, the decorative symbolism seen in emblems such as the swastika on the bottom of jugs and cups is also missing. This is not to say that the OATC corpus lacks a decorative style of its own, just that it seems to follow different, simpler lines. The omphalos with concentric circle in a pan (cat.no.280) might be seen as a form of elaboration as it occurs on an open shape, but as the base is rounded it is probably more connected with issues of stability than of handling as this pan has a handle. The thickened and slightly everted rims found on bowls (e.g.type 21a cat.nos. 246, 231), may perhaps have been designed to assist gripping them, but on cauldrons



and buckets there are other forms of grip (handles) so in these cases the inclusion of such a rim must be connected more with notions of style.

A more frequent form of elaboration is seen in the deployment of carination, both in more rounded form, for example, on type 21a bowls (e.g.cat.no.246) and type 46a cauldrons (e.g.cat.no.273), and also much more sharply as in the case of the type 61a sieve/strainer bowl (cat.no. 252), and the highly stylised type 21c bowl (cat.no.267). Sharp carination is also found on the type 25a footed bowl from the palace (cat.no.233). This has a smallish, flaring foot with a torus moulding on it, sharp and sweeping lines, and a double spout which may suggest a sharing/social use for this vessel. Another vessel which displays elaboration through its form and which also was probably connected with the social manipulation of liquids is the footed bowl (type 25b, cat.no.230) which, in addition to having a small foot with torus moulding and an offset neck/rim, has a short upward-pointing spout on one shoulder. Two further vessels which may also have had a similar social function and have some form of surface or applied decoration are the cylindrical-necked jar (type 1a, cat.no. 277) which has a series of rounded ribs around the base of the neck/shoulder and again from the lower belly to the base, and the base ring bowl (type 20d, cat.no. 229) with a short neck and flat rim but, most unusually, a handle in the shape of a man with outstretched arms attached at the neck. Finally, there is the mini bucket/situla (type 48a, cat.no. 279) which has an almost anthropomorphic appearance, seemingly consisting on each side of a pair of female thighs. Vessels with a similar configuration of long body and basket handle, such as those from the HE period Kinik-Kastamonu hoard (see Chapter 7), are believed to have been used for cult purposes, and are familiar from earlier Sumerian depictions and later Assyrian bas-reliefs. The female trunk-like shape of the example from Kültepe is further suggestive in this regard of a use for this vessel, such as libation, in a female deity- or mother goddess-based cult, the kind of which has a long history in both this region and the Near East more generally. There thus seems to be a connection between the majority of the decorated or more complex Kültepe vessels which could therefore be termed display items, and the social (and in one case ritual) use of a special liquid.

#### **5.1.4 Construction Techniques**

This period witnesses a standardising of the techniques used to construct vessels. All the vessels are raised or sunk by hammering with no evidence of casting, even for



components such as handles. This is in turn a factor of the concomitant narrowing of forms observed, although it is conceivable that the vessels that no doubt once existed in the temples and palaces of Kültepe and Acemhöyük may have displayed some of the diversity seen in the EBA. Despite the brief break in occupation at Kültepe between levels II and Ib, the range of techniques used is uniform both in method and quality of craftsmanship, and presents a picture of a cohesive if less adventurous technological style than the previous period.

Particularly noticeable is the lack of variety in handle attachment methods. We do not see the technique previously found in vessels from the north central area of making a handle by extending it in one piece from the rim of the vessel, but this is perhaps due to the absence of the cup and jug shapes on which this was employed. Similarly, lug handles are no longer applied even though the jar with cylindrical neck (type 1a) on which these could have been used for suspension is present. Rivets were used for handle attachment, although indirectly for fixing attachment plates used as part of the basket handle arrangement. In the one case where they may have been used directly for attaching handles (type 25b footed bowl), the handles themselves are missing and so it is possible that the rivet holes on this vessel may have been used for attaching a handle plate or else some form of decoration. Rivets are found on cauldrons (types 43a, 44a, 45a, 47a, 48a), a ladle (type 60a, cat.no.244), the bronze kantharos (type 11a, cat.no.232), globular cup (type 13b, cat.no. 249) and on a small bucket (type 47a, cat.no.279). Also absent is the distinctive volute and hinge type of attachment for basket handles which I feel proves my contention in Chapter 4 that this was exclusively a western Anatolia feature.

Features which seem to have continued from the previous period are few, but include the split pin handle attachment method used in conjunction with basket handles primarily on cauldrons (e.g.types 46a, 47a, 48a). The earliest related occurrences of this in Anatolia are on a vessel from Troy (cat.no.161) and another from Horoztepe (cat.no.64), and the range of examples has been discussed by Collon (1982). The form this type of handle attachment takes is generally as follows. The basket handle termini are bent up and backwards on themselves forming a half-open loop which links through a split pin. The latter is threaded up through one side and down through the other of a double lug-type attachment on the outside of the vessel wall (Fig.5.8). This type of handle attachment is found distributed through time and space as far apart as the Tell



Asmar, the Royal Cemetery at Ur and Troy, Kültepe and the kurgan burials at Trialeti, and Shaft Grave V at Mycenae. Collon concludes that this feature persisted over such a long period of time because the bucket/cauldron-type vessel concerned fulfilled a special function, and she points to a libation scene on an Akkadian cylinder seal from Tell Asmar in which just such a vessel is perhaps shown (1982:101). Another feature which continues from the EBA, and was perhaps employed for purposes of stability or handling, is the omphalos and the related ring base with concentric circle found on bowls and a pan type. Finally, the tendency to thicken rims by rolling the edge under and in on itself, can be seen as having developed from the type 16a bowls from Troy.

The above comments may seem to imply that during this period there was a decrease in the quality of craftsmanship and a loss of knowledge about the different techniques available to the metalsmith. This is certainly counterbalanced by the advances witnessed in the smiths' ability to control and manipulate larger amounts of metal in one vessel, as seen particularly in the construction of the cauldrons. These were not made in the rather crude manner witnessed in the later material from the Greek mainland in which several sheets of bronze or copper plate were bent to shape and riveted together to form a large cooking vessel. Rather the OATC period cauldrons were raised in one piece, forming neat and smoothly curved items (e.g. the squat cauldrons). In a similar way, but on a smaller scale, the base ring bowl with carinated profile and rebated base (type21c) demonstrates a greater finesse in the bronzesmith's techniques. It should also be remembered that bronze and copper, as baser materials, would naturally be used for more utilitarian items which would not warrant a great deal of a craftsperson's time in the making. Similarly, it is possible that the received picture regarding the techniques used in the metal vessels of this period, may be somewhat clouded by the probable non-survival of whole classes of gold and silver vessels which, because of the materials they were made in, as well as for whom they were made, may have exhibited more elaborate forming techniques.

### **5.1.5 Depositional context**

All of the vessels from the Karum at Kültepe were buried in intra-mural graves with their owners, and those from the citadel were found in both habitation and ritual contexts. The current director of the excavations at Achemhöyük, Aliye Öztan, has expressed the view that if the karum there were to be excavated then a very similar picture of merchants buried with their bronze bowls and cauldrons would emerge (Aliye



Öztan pers.comm.). The vessels from Titriş Höyük, Tarsus and Konya all demonstrate a similar expanding usage, perhaps through increased economic availability, of metal vessels through their discovery in domestic use contexts.

### 5.1.6 Inter-regional Influences

Given the trading and familial connections between Assur and the owners of many of the vessels at Kültepe, and also in view of the formal differences and contrast in the lack of decoration between the metal vessels of this period and that of the EBA, it is tempting to postulate a north Mesopotamian influence. However, as the relevant contemporary levels at Assur have not been excavated, and are unlikely to be so, this question cannot be answered. However, one vessel found in the Karum might lend support to this possibility. The excavator noted that the lead one-handled pan from a level Ib grave (cat.no. 263), has a parallel in a copper one found at Chagar Bazar dating to the early intermediate period of level I at that site. Also, stretching back chronologically somewhat to the Akkadian period, numerous bronze examples of the shallow, base-ring bowl with very rounded belly and rounded, thickened rim have been found at Nippur, Tell Bismaya, Ur, Kish, and Tell Asmar (Müller-Karpe 1993:pl.43), which are virtually identical to the bronze examples found at Kültepe (type 21a, cat.nos.231, 234, 246, 274). The similar idea of a rather scoop-like pan is seen in two examples from the Royal Cemetery at Ur (Woolley 1934:cat.nos.U.10886,U.10004), as are beaker-like drinking vessels with concave, flaring sides (ibid:pls.100.11, 100.12,157.c) and bowls with thickened, rounded rims (ibid:pl.100.4, cat.nos.U.10930, U.10002). The possibility should therefore be considered that the metal vessels found in the Assyrian merchants graves at Kültepe Karum, which are quite different in form from those found in EBA Anatolia, represent an influx of shapes that had been prevalent in Mesopotamia for several hundred years previously. By way of contrast, there are indications in some of the elaborated vessels of a more indigenous character. For example, the bronze kantharos from the citadel (cat.no.232) is a version of an established EBA Anatolian form, and the design logic of the two spouts on the footed bowl (cat.no.233), also from the citadel, echoes those on the gold 'sauceboat' from EBII Troy. Similarly, the cylindrical-necked jar from the karum (cat.no.277) closely resembles in form those from EB II Troy and Demircihöyük (see Chapter 4).

Turning to more contemporary comparanda, a very similar version of the type 21a bowl found at Kültepe is also found widely at sites in the Levant including Tell Dothan,



Megiddo and Beth Shan (Gershuny 1985:pl.5). Furthermore, a principal feature of the assemblages are wine sets comprising jugs, flasks, bowls (many similar to the type 21a bowl) and strainers, which as noted above, have also been found in graves at Kültepe. Interestingly, the Levantine material has been found almost exclusively in graves also, together with some cauldrons. The presence of these bowls at Kültepe, and the similarity to the Levantine assemblages of their co-occurrence with cauldrons and strainers (albeit with a lack of the jugs), suggests two associated conclusions. Firstly, that possibly eating, and certainly drinking was part of the funerary ritual in Anatolia and neighbouring areas at this time. Secondly, that these vessels are a reflection of the wider practice of drinking alcohol in ritualised, and possibly social settings.

### **5.2.1 Overview of the Aegean FPP Corpus**

Although the total count of surviving vessels dating to the FPP is comparable to that of the preceding period (cf. Tables 4.3 and 5.3), there are several differences in the nature and distribution of the early MBA corpus which are particularly striking (Table 5.3). Firstly, they all come from Crete and their distribution is further restricted to the north coast sites of Gournia, Malia, Kalathiana and Tylissos. Moreover, although Knossos and Phaistos may be characterised as having been the largest of the early Cretan palatial sites, no metal vessels have been recovered from them despite extensive and repeated excavation over the last century. This can partly be attributed to the lack of elite burials, but remains a striking example of severe recovery bias. Whereas in the EBA all of the examples bar two came from either the Cyclades or the mainland (Table 4.3), none dating to the early MBA have been found there. Matthäus notes one vessel that may possibly have originated in the Cyclades (1980:340; no.477 in Hamburg Art and Craft Museum), but does not include it in his catalogue as this attribution is doubtful. He comments that the absence of Cycladic material at this time reflects a general cultural stagnation or even downturn following the blossoming during the EBA (ibid:340). He also points to burial habits and the limited settlement excavation to account for the lack of EH and MH material (ibid:344). While I do not necessarily agree with the explanations he offers, the contrast with the previous period is difficult to account for.

Secondly, Table 5.3 shows a shift in the materials used. Whereas in the EBA gold and silver dominated the corpus and there were no copper or bronze examples, only one silver vessel features in the early MBA and the rest are of copper/bronze. This conspicuous lack of gold vessels may perhaps be traced to a combination of the original



source of this metal for Aegean communities, and economic/political events in the intervening period. As noted in Chapter 2, it seems likely that the nearest source of gold for Aegean communities was the Troad/western Anatolia (de Jesus 1980:154; Yakar 1985a:31) and as seen in Chapter 3, by the beginning of the second millennium Troy had regressed in wealth and lost its pivotal position as an entrepôt and filter into the Aegean of exotic and valuable commodities from the Pontus and south east Europe. Furthermore, there had been an increase in the relative value of gold (8.25:1 gold:silver see Larsen 1967:99), perhaps putting the acquisition of quantities sufficient for making vessels out of the reach of the nascent Minoan elites, who needed to focus their resources in other directions at this time (Davis 1977:93). However, gold was still acquired in small amounts as evidence by its sparing use in jewellery, perhaps the most opulent piece of this period being the MM II gold bee pendant from Malia.

Dickinson has commented that the comparative dearth of Minoan vessels, particularly in the face of rich finds in other categories of elite goods from several Cretan sites, may be explained by metal vessels being occasional products, made to order by specialist metalworkers such as jewellers (1994:136). While it is difficult to refute this kind of opinion on the basis of the existing evidence, and the lack of metal vessels at Knossos is certainly perplexing, I propose that there is reason for believing that there were smiths dedicated to the production of vessels rather than jewellers making them on the side of their usual trade. This lies in the appearance of bronze vessels, which is notable in that it marks the use of metal to make a different class of more utilitarian, heavier, non-display vessels. While it is plausible that Minoan jewellers may have turned their hands to making gold and silver vessels, the smithying of bronze and copper sheet involves working in a medium that demands distinct alloying and crafting knowledge, as well as the deployment of mechanical skills on a quite different scale.

### **5.2.2 Form and Function**

With the exception of the Gournia silver kantharos, and possibly the bronze 'skyphoid' bowl (type 15e), the remaining vessels are all of a utilitarian nature. They are all copper/ bronze and include two whole examples, and one fragment of the type 50a hemispherical tripod cauldron, a shallow tripod cauldron (type 53a), various fragments from unidentified vessels and a basket handle, all from Quartier Mu, Malia, and a shallow rounded pan with two handles (type 28b) from Tyliossos and Kalathiana. The type 50a tripod cauldron has a hemispherical body, flat base and lightly everted rim



with vertical handles, round or rectangular in section, attached under the rim and, unlike later examples, 'bracketless' legs (Evely 1993:519,528) which are attached mid-body by three or four rivets through the flattened upper terminus of each of the legs. The type 53a shallow tripod cauldron/pan is similar although much less deep, and usually with horizontal handles.

The shallow rounded pan with two handles (type 28b) from Tyliossos and Kalathiana is a one-piece, shallow, broad form with flat base and rounded corners. There are two vertical loop handles, round in section, attached through their flattened ends and fastened by rivets part way down the body. These vessels were no doubt used for very similar types of cooking, although the type 50a cauldron may have been used for recipes involving more liquid.

The silver kantharos (Fig.2.2) is basically conical in shape with a carination at the widest part and an offset rim with four lobes. Its looping strap handles were fastened by bronze and silver rivets with rounded heads, a technique which later becomes a feature of Minoan metal vase making (Davis 1977:146). This single drinking form seems very likely to have been a novel 'borrowing' (ibid:89) from Anatolia, and one which is also replicated in clay in both regions (see Chapter 8). It is the only vessel found in the Aegean of FPP date whose function can be securely ascribed to drinking, as the hemispherical bowl with two handles (type 15e; Evely's 'skyphoid' cup; 1993:523) is too large to have been used for drinking from, although it may have been used for mixing and presenting liquids in symposium-style. It is tempting to surmise that display-type metal vessels used for social drinking and the manipulation of liquids were produced and used in FPP Crete as they had been in the EBA but do not survive.

Other fragments include rim and handle pieces, but perhaps most interesting is the basket handle from Malia, which is of a type not found on any extant E/MBA Aegean vessels, but which is found on numerous Anatolian examples ranging in date from the EBA through to the LBA. In form it is a simple, high bow shape with ends that are bent back on themselves to form a small, hook-like half loop. Collon (1982) had noted its first appearance in the Aegean at Mycenae in the Shaft Graves. This piece from Malia now enables us to move back the advent in the Aegean of not only this technique of handle attachment, but also the likely original existence of the vessel type to which it was attached but which has not survived. A comparison of all the vessels on which this



handle occurs in Anatolia and the Near East indicates fairly securely that a type of cauldron/pot that would have been suspended, rather than stood over a fire was known in Minoan Crete before it was on the mainland. The question of origins and influences that this piece and the silver kantharos introduce are discussed in section 5.2.6 below.

### 5.2.3 Decoration

None of the FPP Aegean vessels have any form of surface elaboration of the type achieved through repoussé, inlay or the surface chasing of patterns and emblems seen in the next period. This is more in keeping with the vessels of the previous period and is perhaps not surprising given the general utilitarian nature of the extant vessels. As seen in section 5.1.3 this is also the case with the contemporary Anatolian vessels. The only form of elaboration witnessed is in the form of the Gournia kantharos (Fig.2.2), with its carination, four lobes and the tapering handles rising above the rim, all of which are previously unknown in Aegean vessels whether metal or ceramic.

### 5.2.4 Construction Techniques

All of the FPP vessels were made from sheet that was either raised or sunk by hammering a disc of metal over a stake. Added components, e.g. cast tripod legs and beaten handles, were then riveted on, usually through an attachment plate made from the flattened end of the component. As mentioned in Chapter 2, soldering/fusion was not used on EBA Aegean metal vessels for attaching handles, perhaps due to the lack of strength/reliability that such a join may have afforded. In general, then, the techniques used for which we have evidence were still fairly basic, but Matthäus makes an interesting comment in this regard. He notes that the techniques evidenced in EH metal vessels and those more developed forms and techniques of LH show that there was a period of development in MH which is lost due to no surviving examples (1980:339). Once again, the lack of material promotes an argument that is somewhat based on negative evidence but, without pre-empting the observations of the next chapter, the fact remains that in the next period there is a very sudden appearance on the Greek mainland of an unprecedented range of forms and techniques. While these are not as developed or accomplished as the contemporary Minoan equivalents (Davis 1977:329), they do raise questions regarding out of what these distinct forms developed, and whence the technical knowledge was acquired. Evelyn has commented that the Gournia kantharos shows advances in the skills of raising, with its flared base and carinated body and



crinkled rim (Evely 1993:560), although given the lack of earlier Minoan metal vessels it is difficult to know exactly on what he is basing this comparison.

### 5.2.5 Depositional Context

In contrast to the contemporary situation in Anatolia, all of the Aegean bronze vessels were from MM II habitation/workshop contexts in Quartier Mu, Malia, with only the silver kantharos coming from a grave (House Tomb II, Gournia). Quartier Mu is unusual amongst contemporary Minoan settlements in having been sealed and not re-used following its destruction. The lack of many other MM sealed contexts, combined with the tendency to rebuild quickly at this time (Matthäus 1980:107,276-7), as well as a lack of rich MM burials, may in part account for the small number of surviving examples.

### 5.2.6 Inter-regional Influences

Although the case for external, and specifically Anatolian, influence on Minoan FPP vessels is based on only two pieces, it is nevertheless quite persuasive. These are the Gournia kantharos and the basket handle from Malia (Matthäus no.425 his type 49c) which, based on external comparanda, I have classed as coming from a type 46a cauldron. There are a few other Aegean examples of the handle of later date catalogued by Matthäus (nos.426-9), but none of them occur with the vessel to which they were once attached, while those from Anatolia do. This, combined with other examples from the Near East that are similar to the Anatolian ones, gives a pretty firm indication of the type of vessel to which the Minoan one belonged. On Anatolian vessels, the hook-like ends of the handle link through a bent metal pin which in turn feeds through an attachment plate on the body of the vessel, the latter usually taking the form of a squat cauldron or bucket shape (Fig.5.12). As noted above in section 5.1.4, Collon has drawn attention to the occurrence of this distinctive form of handle attachment throughout the Near East from the EBA onwards. The inference that this form of handle, its method of attachment and the type of vessel with which it was associated, was introduced from Anatolia is strong given that it had a history dating back to EBII in Anatolia but was novel in the Aegean FPP.

Turning to the Gournia kantharos, as Davis notes, it is not possible to state definitively whether this was imported from Anatolia or was a locally made, close imitation of an Anatolian type (1977:87). Numerous pottery examples of this shape have been found in



MBA levels at Alaca, Karahöyük, Alişar, Boğazköy, and Acemhöyük, with the earliest being found at Kültepe between levels II and Ib (Özgüç 1955:64-72). Pottery versions of this shape have been found at various sites on Crete, but its Anatolian origin is suggested by the quantity, consistency and longevity of the shape in the latter region. Also, these examples have a very developed appearance and differ from the Minoan ones in being bigger with tall pedestal feet and sometimes strainers in one of the lobes, indicating that they were used as pouring vessels. Furthermore, that there was an awareness in Crete of Anatolian pottery, and possibly metal, vessels is demonstrated by the finds of Anatolian-type ceramics (including two lobed kantharoi) in burials on the Isle of Christ near Malia dating to MM I, some of which had imitation rivet heads where the handles join the rims (Davis 1977:86). Davis proposes that this influence was a by-product of the search for silver by the nascent elites situated in the north and east of Crete, who found that the south Anatolian "silver mountains" mentioned in the later Hittite texts were a good source of this metal (ibid:87). The timing of such extensive ceramic borrowing from Anatolia is perhaps not a coincidence, as it occurs at the time of the building of the first palaces when Cretan communities were perhaps looking to the established elites of Anatolia, with whom Aegean communities had established trade contacts over several hundred years.

Casting the net a little wider in the search for possible Minoan or Minoan-influenced metal vessels necessitates a consideration of both the Tôd Treasure and four vessels, including two 'teapots', found in tombs at Byblos. There is a continuing controversy over the origin of both these groups of vessels, particularly the Tôd Treasure, for which Warren and Hankey are the main proponents of it having been Minoan (1989:131-4), with Maxwell-Hyslop marshalling evidence from the older metalworking traditions of Anatolia, Syria and Mesopotamia (1971:250). Warren and Hankey's argument is mainly based on links between the latter and FPP pottery, although there are also ceramic links between two Tôd kantharoi and a transitional MH/LH ceramic version from Peristeria (Dickinson 1994:20). The main problem concerns the chronological link between the Tôd treasure and FPP Crete, as it is not possible to associate all of the material within this hoard with the reign of Amenemhet II (1917-1882 or 1875-1840), and some of it may be considerably later. I feel that a definitive ascription of the origin of this material is unlikely given the present evidence but, in the light of the above comments regarding possible Anatolian influence on FPP Minoan metalwork there are a few points which should be noted regarding it. These concern a possible Troadic origin



of influence for some of the Tòd vessels, features of which appear in later vessels from the Greek mainland including rolled edges of handles (although it is unclear whether these are rolled around strengthening wire as in the later Mycenaean examples), repoussé ornament with raised vertical rib on the handle of a kantharos, conical rivet heads and niello, as well as cups with the handle extended in loops from the rim like EBA examples from central Anatolia (de la Roque 1950:pl.11 no.70576, pl.12 no. 70581). The Tòd vessels have also been compared to the LBA Vulcitrùn hoard (Seyrig 1954:218-224) based on the kantharos-shaped krater with protruding double base rings (omphalos and concentric circle), handles extended in one piece from the body and vessels decorated in a leaning loop motif in repoussé thereon. The latter ornament has also been found on the haft of a sword handle from Grave Delta (Mylonas 1973:pl.69b). Davis suggests that the Tòd vessels are not Aegean products but display features which appear on later (extant) Aegean metal vessels (1977:75). While the latter is true, the evidence presented earlier for Anatolian influence on MM metal vessels provides the possibility of seeing the Tòd vessels as Cretan-made items that exhibited certain features of MB Anatolian vessels

Turning to the Byblos teapots, both are very similar in shape if slightly different in construction details, and have been thought to be Minoan based on the similarity of their shape to EMIII ceramic teapots from Mochlos (Zervos 1956:figs.137-138). However, the triangular spout shape is matched by examples from Kültepe karum (Özgüç 1959:pl.39.1), the conical base and vertical collar is seen in Boğazköy ceramics (Fischer 1963 IV:42-3, pl.34 no.346, Koşay 1966:pl.12 no. h200), horizontal incisions on the collar are frequent on Anatolian metalwork and pottery (JdI 74:1959:8, figs.7-8, p.9 fig.10, p.14 fig.28, p.15 fig.31), and vertical flutes are seen in vessels from both Troy and Alaca (Schliemann 1881:no.776,784; Schmidt 1902:nos 5860,5865; Koşay 1951:pl.176 below), which all point to an Anatolian origin. With respect to the two silver cups each found with one of the 'teapots', Davis has made a case for these also being either made in Anatolia, or copied from Anatolian prototypes based mainly on the style and syntax of the repoussé spiral net decoration on them which was subsequently adopted in Crete (1977:84-85). In summary, I tend to agree with Davis that these pieces indicate that "the inspiration went from Anatolia to Crete" (ibid:84), and that such expertise was acquired during the process of metals acquisition (Evely 1993:625).



However, comments in the Mari letters texts perhaps provide a counter-balance to this view. They mention Cretan gold and silver inlaid mace heads as objects of value, and that the products of Caphtor were in circulation as far afield as Mesopotamia (Dossin 1939:111-112); the later Ugarit texts mention a god of arts and crafts on a throne at Caphtor (Gordon 1966:44-5). Also, later frescoes depict scenes of Aegean people carrying metal goods as gifts (Evans 1921-35 II.ii.figs 337-340, p.737ff), and Evely has proposed that Cretan metal work, especially the vessels, long swords and heavy spears became especially respected (1993:628; Dossin 1939:111-12). In the light of the foregoing, it may be worth considering the possibility that the dearth of FPP metal vessels in the Aegean is in part due to the Minoans having been importers and processors of raw materials, which they then re-exported to the courts of the Near East. Archaeological evidence for this contention is, as we have seen above, rather thin on the ground. However, there is one vessel found at Alalakh which may lend some support to the idea of such Minoan exports (Woolley 1955:pl.74, cat.no. AT/39/142). It is a tripod cauldron which is similar in form, albeit with differences in detail, to the one found in Quartier Mu at Malia (Matthäus 1980:cat.no.42), but which more pertinently, is the same in concept (Fig.5.9). While the body of the Alalakh cauldron bellies out near the base, has only two handles instead of three on the Minoan one, and has legs with splayed ends, the idea of a cauldron on legs is not found elsewhere in the Near East or Anatolia at this time. Other similarities include the shallow body of the cauldron, the vertical positioning of the handles and the direct attachment of the legs onto the body by means of flattening the top end of each leg, instead of the bracket form of legs found on later Aegean tripod cauldrons. In contrast, contemporary MBA cauldrons from Anatolia are generally much deeper and either rounded or with straight/concave sides, often with strap or basket handles or else handles attached at the shoulder (cf. cat.nos.242, 282, 284). Finally, the tripod cauldron in its various permutations is a form which becomes common in the LBA Aegean but not in Anatolia or the Levant. I suggest, therefore, that the Alalakh vessel may represent a possible survivor of such exports of Minoan manufacture. On the other hand, it should be noted that in this period on Crete, we lack the most common means by which metal vessels became deposited, rich graves, and that although more metal vessels may well have been in general circulation at this time, there was not this means available by which they could have entered the archaeological record and thus survived.



### 5.3 Summary

This period is unusual, in comparison to those either side of it, in that our view of what the original corpora of both regions may have contained is heavily obscured by the almost total absence of the major preservation traps which enable the survival of a wider sample of material. Were it not for the karum at Kültepe we should have very little idea of the range and types of metal vessels that were in circulation in early MBA Anatolia. A lack of elite burials in both regions means that we have only very rare glimpses of the precious metal vessels which the elites of both regions used. Having said this, it seems clear that in the Aegean both the mainland and island communities were not in a position to acquire or devote the metals necessary for the production of vessels for the domestic market, and a similar situation seems to have prevailed in western Anatolia. In addition it would seem that the nascent elites of the Cretan north coast communities had both the social need, and the ability through international contacts, to obtain knowledge of, and the raw materials to make these items of prestige material culture, and perhaps consequently become manufacturers of them for export to the Near East. In central Anatolia the new merchant middle class, with their long-established contacts with north Mesopotamia, were far better placed to know about and be able to acquire and express their prosperity through widely recognised means. There is evidence to suggest that the metal vessels found in their graves derived in form from those prevalent in their homeland since the late EBA. For the Kültepe merchants, and also certain other Anatolian communities, bronze metal vessels were becoming more of a part of everyday life. However, precious metal display vessels appear to have been restricted in circulation to the environs of the elites in the citadels, and this pattern may reflect a restriction in their sumptuary availability to the non-elite. In the next chapter the picture shifts again as the Aegean experiences a flourish of participation on the international scene, prosperity and creativity.



## Chapter 6 – Aegean and Anatolian Metal Vessels of the Mid Second Millennium

In terms of the present subject, one of the most remarkable features of the early LBA is the apparent sea change, from the preceding two periods, in the spatial distribution and quantity of metal vessels. From Anatolia, which by this point already had approximately a thousand year history of producing metal vessels, only three vessels have survived from a time when the Hittites were establishing the Old Kingdom. Even allowing for the political instability of this period, it is difficult to believe that metal vessels did not feature in the inventory of the Hittite court, even if they were not so prevalent among the general populace. If taken on face value, this dearth of metal vessels could contribute to erroneous interpretations of state-level recession or impoverishment. Although the lack of this particular index of wealth may well indicate that there were indeed fewer metal vessels in circulation in Anatolia at this time, another consideration is that no elite burials, in which metal vessels may well have been included as grave goods, have to date been found.

Turning to the Aegean, the contrast in number and distribution of metal vessels from the preceding periods is readily apparent from Table 6.1. Admittedly, this is due in large part to the apparently sudden appearance of wealth on the Greek mainland, witnessed predominantly in the Argolid through the contents of the Shaft Graves, and graves at nearby sites. Moreover, this bloom in the SPP is not restricted geographically to the mainland. In the Aegean islands alone, almost as many metal vessels have been found from this period as for the whole of the EBA and FPP Aegean combined, and on Crete there is a large quantity, and broad geographic spread, of bronze vessels. Furthermore, as outlined in section 6.2.2 below, this picture in the Aegean is further compounded when we consider the *variety* of metal vessels that suddenly appear in the archaeological record.

The appearance of this horizon of wealth is not easily accounted for, given the lack of primary indications of such an imminent development in the preceding period, although the skeuomorphs strongly indicate the MBA existence of a metal vessel craft (see further Chapter 8). It may well have been the result of expanding international trade. However, more pertinently for this study, its apparent suddenness may in fact be



partially illusory for two reasons. Firstly, it should be remembered that most likely several generations are represented in the Shaft Graves and other tombs, and so the wealth contained therein would have been accumulated over at least several decades, rather than all at one time. Secondly, and related to the last point, is the issue of the dating of the metal vessels. As Evely observes, the majority of Cretan vessels date to the end of the SPP/beginning of the TPP but it is not clear how many of the latest ones were actually survivals from an earlier date (1993:560), and were thus heirlooms by the time they were deposited. For example, the gold cup from Ayios Ioannis, which was found in an LM II/III A context, has been dated by Hood to LM I on stylistic grounds (1956:81-83).

One note needs to be made regarding the structure of this chapter. As a consequence of the fact that the Anatolian corpus for this period consists of only three vessels, in this chapter I deal with them differently to the preceding two chapters. Due to the fact that it is not possible to identify patterns of metal usage, type distribution, technological styles and so forth, I discuss what little can be observed regarding the three vessels together in one section.

### **6.1 Overview of the Anatolian Corpus**

As noted above, there are only three extant pieces from the HOK period, a bronze cauldron (type 44a) from Alaca, a shallow bronze bowl with short concave neck and relief decoration (type 20b) from Kerkenesdağ, and a flat silver lid (type 63a) from Boğazköy. Although the surviving pieces from this period in Anatolia are very meagre, they do suggest that metal was not being used only to make mundane, practical vessels, but more elaborate pieces also. This is seen particularly in the use of silver for the lid. It is constructed from two circular plaques of different diameters laid on top of each other, and connected through their common centre by the pin of the holding knob. Also, unlike in the previous period, when decoration on metal vessels was very rare, this piece is decorated with a dozen tiny relief knobs on the smaller plaque, and incised concentric circles on the larger one. Decoration is also found on the bronze bowl, the lower part of which is covered in repoussé arcades emanating from the centre of the base, reaching their fullest around the belly area.

The cauldron demonstrates that, as in the previous period, metal was also used to make more everyday items. It was found in the cellar of a building of level IIIb at Alaca,



together with a curved metal siphon tube. It has a rounded base and wide, open mouth to which is attached two loop handles set opposite each other, that are round in section and described in the report as 'mobile'. That it had been in use for some time is suggested by the flat strip riveted around the neck, which looks like a repair to the rim area that may have worn thin through use. This evidence of repair suggests that such vessels were not readily replaced when damaged or worn, perhaps due to their cost and/or availability. We can only speculate on its exact use due to the lack of contextual information. Normally it would be reasonable to interpret such a vessel as having been used for cooking food, and its round base would not preclude its having been placed directly on a fire, or perhaps suspended over one. However, the presence of a siphon tube, assuming that it was associated with the cauldron, suggests that the contents were a thin liquid/drink, rather than a thick soup or stew.

Turning to the function of the other two pieces, the bowl is of a size which could have been used for drinking from, and its design indicates that it would have been suitable as a display item. Information regarding the context of its discovery would aid in its interpretation. The lid has a hole on one side which would have been used for tying it to a round vessel. Given its diameter (7.5cms) this would have been a small jar or bowl, most likely used as a container for an unguent or even jewellery. It would seem that the vessel it accompanied was of equal or superior value as it was not left behind, as the lid was, when the palace was cleared prior to its destruction. No other similar lid has been found in second millennium contexts either within Anatolia or the surrounding regions, and so it is not possible to speculate further regarding its purpose or any possible associations. It should therefore be assumed that it was a domestic product.

These three pieces, albeit inadvertently through the chance of survival and recovery, perhaps offer a cross-section of the HOK metal vessels that once existed: the high level items, made of precious metals and decorated that were used by the elites, that were perhaps restricted in circulation to Boğazköy and secondary centres and temples; elaborated pieces made of bronze that may have been used by officials in secondary centres and forts; finally, kitchenware, which would certainly have been used in the kitchens of palaces and secondary centres.

However, there is a question mark over whether metal vessels in this period were as available to sections of the general populace as in the previous period, as suggested by



the Kültepe material. With the establishment of the Hittite kingdom, and the destruction/dissolution of the karums throughout Anatolia, a social polarisation probably occurred in which the 'middle class' of merchants of the OATC, to all intents and purposes disappeared; leaving the Hittite elite and their court on the one hand, and the general populace on the other. Such a socio-cultural structure, in which there were restricted opportunities for wealth creation and social advancement for the majority, would also have been characterised by the tight central control of valuable materials and elite paraphernalia. If metal vessels did play a part in the everyday life of the non-elite, they did not enter the archaeological record through the usual 'traps'. Excavations of HOK settlements and non-elite intramural burials and cremations at various sites including Alaca, Ikiztepe, Boğazköy, Karahöyük, Kusura, Polatlı, as well as at extramural cemeteries at Ferzant, Gordion, Ilica, Kazankaya, Osmankayası have not produced a single metal vessel (Kutlu 1978:124-132). Current evidence therefore suggests that the circulation of metal vessels was more restricted in this period.

### **6.2.1 Overview of the Aegean Corpus (Tables 6.1-6.5)**

As noted above, the SPP sees an explosion across the Aegean in the quantity and range of metal vessels. On Crete they have been found at 16 sites, although the majority (77 of the 108 vessels and fragments recorded) are from just four sites: Knossos (22), Zakros (16), Malia (16) and Mochlos (23). Only four vessels, which are all bronze, have been found at Phaistos, and comprise a rounded pan from a grave (28c), a tripod cauldron (51a), and basket handles (type 67e), all from the palace. This is most probably a reflection of this site's reduced importance in this period, following its destruction towards the end of the previous period, a set back from which it never truly regained its former status. Interestingly, at nearby Hagia Triada, which is believed to have taken over much of the administrative function of Phaistos during this period, only two bronze hemispherical cauldrons (type 49a) were found. This, combined with the fact that four of the six precious metal vessels were found at Knossos, seems to underline the premier status that Knossos had both in the central area of the island as well as island-wide.

Apart from the silver cup, which was found near Heraklion Museum (Davis 1977 cat. no. 18), the only other SPP Cretan precious metal vessel not from Knossos, was found in the storeroom at the new palace of Zakros. It is a lobed-spout jug (type 38a) made of silver with gold and electrum overlays and is decorated with silver strips that have



fused-on bosses. This vessel far exceeds the other contemporary Cretan silver vessels in terms of elaboration and the skills employed. Furthermore, these points should be considered in conjunction with the fact that 15 bronze vessels spanning eight types were also found at Zakros, which contrasts with only the two vessels (a bronze footed ewer and a deep bowl) that have been found to date at the nearby settlement of Palaikastro. The other notable absence on Crete at this time is gold vessels, although it is possible that some stone vessels were covered in gold leaf, in the manner of the peak sanctuary rhyton from Zakro. However, some of the gold vessels (Davis 1977:cat.nos. 29, 38, 52, 82, 96, 102, 110, 116) from the mainland have been ascribed by Davis to Minoan workmanship.

Turning to the Aegean islands, 16 of the 22 metal vessels recorded have been found at Akrotiri on Thera. They constitute a comparatively wide variety of forms, demonstrating that metal vessels were used for a variety of purposes (see further below section 6.2.2), and thus perhaps played quite a large part in everyday life in this key outpost of Minoan culture. This tallies with the concentration of other aspects of Minoan material culture found here compared to other Aegean islands. In view of the character of this town and its connections with Crete, it is surprising that apart from certain shapes which are common to many areas and regions (hemispherical cup and bowl, and bowl with everted rim), there are only two distinctive shapes which have counterparts on Crete both in metal and ceramic (e.g. type 41a and 41b ewers and the type 51a tripod cauldron). The distinctive shallow basins with broad rim and vertical loop handle (type 26b) which are found at most of the key Cretan sites, are notable in their absence from Thera, even though they are depicted in wall paintings from Xeste 3, but two examples have been found on Skopelos and Rhodes. An interesting contrast, particularly to the Theran material, is the two bowls<sup>26</sup> from Kastri on Kythera, which represent the only silver vessels found in the SPP Aegean islands. The presence of silver vessels here is surprising in the light of the fact that none have been found on Thera, which was located on the route between Crete and the silver mines at Lavrion.

Finally, turning to the Greek mainland, the appearance of not only so many metal vessels, but such a variety of quite developed shapes, suggests that more development had been taking place in the preceding FPP than the evidence at present suggests,

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<sup>26</sup> There may in fact be three bowls corroded together (S.van Lokeren, Fitch Laboratory, Athens pers comm.) although confirmation of this is pending further conservation and analysis.



although it might also be partly attributable to much easier access to raw materials as a result of trade with northern Greece, Italy and the central Carpathian basin (Sherratt 1987b). In LH I there is a sudden expansion of fully developed types including hydria, cauldrons, krater, amphorae, beakers, pans and elaborately decorated ewers. This throws further light onto the technical abilities which must have been gained at least late in the MH period, and which resulted in the fully developed forms of LBA. It is best shown in ewers with hammered repoussé decoration (type 42b) which, in a closed shape such as this, is a technically difficult, and very sophisticated, form of decoration. Overall, the bronze material from the Shaft Graves is relatively homogeneous and so it is likely that it was not imported or plundered but locally made. Based on this, Matthäus has further posited that the kraters, hydria and cauldrons can be clearly demarcated into the work of two or three groups of artisans working for the Mycenae elite (1980:341). Finally, there are 96 unidentified fragments from the mainland, each representing a vessel; approximately half of these date to this period and mainly come from Argos and Mycenae, with a very few from Tiryns, Dendra and a couple of other sites. This further indicates that the volume of vessels dating to this period would originally have been even larger.

In terms of intra-regional differences, as noted in Chapter 2, Davis' thesis centres on the identification of area-specific decorative and technological styles, and these are outlined in sections 6.2.3 and 6.2.4 below. One of the most pointed features of her analysis is that, while many precious metal vessels attributed to Cretan craftsmanship have been found on the Greek mainland, none attributable to the latter have been found on Crete. On a broader level, a comparison of tables 6.2 and 6.5 readily shows that there is almost twice the amount of types from the Greek mainland as from Crete, and that there is also more low level variation in the mainland types. The degree of exclusivity in shapes, seen through a comparison of types occurring at Mycenae with those at all other mainland sites, is also far more marked than that between Knossos and other Cretan sites. This exclusivity and extensive low level variation at Mycenae is seen particularly in the jars and drinking shapes (types 1c, 1d, 6b, 6e, 7a, 9a, 9c, 12h), but also in the footed ewer (type 42a), some of the cauldron shapes (42a, 43a, 46b, 47b), the krater (type 54a) and most perhaps most interestingly, the rhyta (types 58a-58f). The next section elaborates on this further.



### 6.2.2 Form and Function

The only drinking type vessels found on Crete include the two Vapheio cups from Mochlos and Tylissos (type 8a), and the one-handled cups from Heraklion and Mochlos (types 12f,12g). A notable absence in drinking shapes is the lobed kantharos, known in the FPP but which by the SPP has disappeared from the Cretan corpus, being found only on the mainland at Mycenae, Kalamata and Peristeria in its non-lobed form (type 11a, my cat.no. A.XXVI Davis 1977: cat.nos 60,134). The spouted cup from Malia (type 14a) which otherwise is only found outside Crete on Thera and at Mycenae and Kazarma, should be classed along with other pouring vessels which include the various types of jug and ewer (types 38a, 39a, 41a, 42a). Apart from one ewer found at Kouphi, pouring shapes are restricted in their distribution to the palatial sites (cf. Tables 6.2 and 6.3, Fig.6.1). Also absent in metal, but known in ceramic and stone, is the rhyton, which is surprising given the importance this vessel evidently held in Minoan cult practices. It is possible, however, that the elaborate shallow basins (type 26b) found at nearly all of the palatial sites, and also at Mochlos, were used for ritual or ceremonial purposes (see section 6.2.5 below). Nevertheless, the range and quantity of vessels on Crete associated with the manipulation of liquids is very small. More particularly, the lack of vessels associated with drinking and feasting at Knossos, as well as the fact that there are almost no shapes that are exclusive to Knossos, are surprising points, given that it was the principal palatial site on the island.

The rest of the Cretan corpus consists largely of vessels associated with practical, everyday functions such as cooking and lighting. In this vein, the only continuation from the FPP is the type 28b shallow rounded pan with two vertical loop handles, which continued to be used at Tylissos and Kalathiana, but in the SPP are found also at Knossos, Zakros, Mochlos and Malia. A closely related shape is the 28c pan which differs in that it has squared-off sides and handles and is found on Crete only at Phaistos and some unprovenanced examples from east Crete (as well as on Thera). The twelve basket handles found in the houses at Gournia, Malia and Mochlos, as well as the one from the palace at Phaistos and two from the Vapheio tholos, have been classified under type 67e, i.e. other shapes not known in intact form, instead of a part of an identifiable cauldron type, as I did for those found in Anatolia dating to the OATC. The reason for this is that they appear to be smaller than the Anatolian examples, although Matthäus does not state their dimensions. Additionally, no vessel with such a handle has been found in the Aegean, with the exception of the silver cauldron from Shaft Grave V at



Mycenae (Davis 1977:cat.no.47, fig.128), which in any case is larger. It thus seems that an additional vessel type, which has not survived intact, once existed and had a predominantly north east Cretan distribution. Given the mainly domestic find context of these handles, and the fact that they are bronze, it is reasonable to presume that they originally belonged to some form of small cauldron or bucket. The same broad pattern of types, albeit on a much small scale, is seen in the Aegean islands, although a simple hemispherical cup and a spouted cup have been found on Thera (Table 6.4).

The contrast in the quantity of types on the Greek mainland could hardly be more pronounced (Table 6.5), with the great variety of drinking and pouring shapes being one of the most notable features. In terms of function, the only vessel type missing on the mainland is the lamp. There are also several classes of vessel which are not found outside of the mainland, including the pyxis, rhyton and krater. However, an even greater contrast is seen when the quantity and variety of types known from the Argolid sites is contrasted with only a sprinkling of vessels found elsewhere on the mainland (Wright 1995:table II). This can be seen both in the bronze vessels (Fig.6.3) and the precious metal vessels (Fig.6.5). For example, from both grave circles at Mycenae a total of 74 precious metal vessels and 60 bronze vessels have been found, compared to 16 precious metal vessels and no bronze from Dendra, which is, arguably, the nearest comparable site in terms of wealth. A similar story emerges from a comparison with Argos, where the total count amounts to 24 whole and fragmentary bronze vessels. Furthermore, the precious metal vessels from sites other than Mycenae, tend to be smaller or else these 'lesser centres' vessels tend to be made in bronze.

It should also be noted here that of the 140 vessels from a secure context at Mycenae, 134 of these come from the later Grave Circle A. Of all of the graves within this circle, graves IV and V stand out both in terms of the quantity of types and the number of precious metal vessels, a situation which is mirrored in the wealth seen in the other finds from them. For example, in Grave IV alone, 31 types are represented over a total of 61 vessels, the majority of which (34) are made of precious metals. An interesting pattern here also is that there is no crossover in the types made of bronze and those made of gold and silver. In Grave V there is a similar pattern, if only on a slightly smaller scale (12 types over 44 vessels, of which 22 are in gold and silver), and in addition it was in this grave that the silver stag rhyton, that is believed to be from Anatolia, was found, as well as the six lead cauldrons (type 43a my cat.nos. A.XLIII-



XLVIII). Although not strictly a metal vessel, another notable piece from Grave V is the silver and gold covered hexagonal box (Karo 1930:94, pl.115-116), which demonstrates an approach to the metallic embellishment of organic vessels not seen in the corpus of either region since the EBA north central Anatolian grave assemblages. These two graves alone, therefore, demonstrate not only the exceeding wealth of metal vessels available to the Mycenae elite, but also the variety and individuality of vessels in which they indulged.

There is also a much greater degree of low level diversity witnessed in the vessels from Mycenae, which is perhaps largely responsible for the picture presented in the tables and figures of an extensive exclusivity of types found there (Table 6.5, Fig. 6.5). Nevertheless, this is borne out in actuality when we consider that Dendra is the site with the most type correspondences with Mycenae (7 out of 9), followed by Argos (5 out of 5) and Vapheio (4 out of 4). In addition to the various drinking vessels, bowls, jugs and cauldron shapes that are only found at Mycenae, most notable is the fact that rhyta have only been found there, and then in quite a variety of shapes, encompassing bull, lion, stag, conical and figure of eight shapes. Given the ascendancy of Mycenae, which seen through, but not only in, the metal vessels that pooled there, it is tempting to interpret the sole occurrence at Mycenae of rhyta as an indication that the elite there had control of the area's religious ensignia.

This picture is very much in line with the findings of Voutsaki's analysis of the distribution of the full range of prestige items from the Argolid, from which she concludes that there is a particularly heavy concentration of, and exclusivity in, all classes of valuables at Mycenae, with the diversity and quantity decreasing according to a hierarchy of sites in the local area (2001:199-200). She attributes this patterning to a situation of competition and emulation between the elites of the Argolid, that was both facilitated and driven by an exclusive gift exchange network between the local elites, with Mycenae in a pre-eminent position (ibid:201). Voutsaki also notes that this hierarchical pattern is not restricted to the mortuary sphere, but is also mirrored in the finds from domestic contexts (ibid:205). Given the later date in the SPP of the majority of the metal vessels from Mycenae and the rest of the Argolid, my comments regarding the exclusive occurrence at Mycenae of the most obvious insignia of cult are therefore particularly suggestive with respect to the political and social position of the Mycenaen



elite at this point, and also perhaps as an indicator of a means by which they gained full ascendancy in the Argolid by the beginning of the following period.

### 6.2.3 Decoration

While much of the decorative variety and creativity seen in the Aegean corpus seems, according to Davis' analysis, to derive from Cretan-made vessels, the majority of the extant examples occur on vessels found in Greek mainland graves. Of those vessels found on Crete it is really only the bronze shallow basins (type 26b) which regularly incorporate any form of applied decoration, which occurs variously in the form of whorl shells, foliate bands, spirals, ribs and double axes on the rim and handle. These were executed by hammering the metal into a mould. The only other examples of decoration are seen on the flat rim of the shallow rounded pan (type 28c) from a grave at Phaistos and takes the form of dots and a slanting foliate band made by hammering into a mould (Matthäus 1980:cat.no.150); the ribbed handle of, and the abstract ivy design on, the underside of the lamp in repoussé from Zakros (ibid:cat.no.466), and a similar one from Knossos (ibid:467); the large running spiral on the silver bowl from Knossos (Davis 1977:cat.no.15); the raised boss and concentric circle on the cup found near Heraklion Museum (ibid:cat.no. 18); and the ivy bands divided by diagonal lines on the Vapheio cup from a Mochlos grave (ibid:328). Apart from these, the only types of decoration occurs in the form of central ribs and rolled thickened edges on handles (my cat.nos A.X-A.XIV). The distribution of these decorated vessels shows that such motifs were not geographically restricted. It is also worth noting here that a shallow basin with whorl shell decoration on the handle, which is most likely of Cretan manufacture, was found at Thebes (Matthäus 1980:cat.no. 331). Equally, very few bronze vessels from the mainland are decorated. These include running spirals on a one-handled pan (ibid:cat.no. 188, type 27a) and ewers (ibid:257-9, 261, type 41a), wavy lines on short necked jugs (ibid: cat.nos.305, 305a, type 40a), and sloping arcades on spouted cups (ibid:cat.nos.341, 342, type 14a). It is difficult to definitively attribute these on the evidence available to either Cretan or mainland manufacture, as the motifs are generally found in Aegean material culture and are not particularly distinctive. However, given their occurrence on known Cretan vessels, and the likelihood that it was Cretan smiths that were driving the style of much of the extant Aegean material, there is a good possibility that these vessels are also of Cretan manufacture.



The other main Cretan decorative device is the use of different types of metal and techniques to achieve colour contrasts. A particularly good example of this is seen on the lobed spout jug from Zakros (Davis 1977:cat.no. 14). It is made of silver with electrum and gold overlays as well as two silver strips that were curved outward to accentuate the belly and which are decorated with tiny silver bosses, each made separately and attached by fusion. These strips with bosses were then gilded. A third strip of silver was coated with electrum foil and fused around the bottom of the jug. This jug thus exhibits three-dimensional elaboration which would also have provided surface texture, as well as the colour contrast in the use of three different metals. It is notable, and a little curious, that such colour contrast is not reflected in the contemporary ceramic skeuomorphs (see further Chapter 8). Other ways that colour contrast was achieved was through the use of an inner lining on cups and bowls, a device which may also have been used for stability and usability purposes, and also cold hammer inlay. Both of the latter techniques date to the earlier part of the LBA and are found on vessels excavated on the mainland, as are the few cases of 'black bronze' which may or may not be the same as niello (ibid:347,cat.nos.43, 83, 86-7).

On vessels of likely mainland manufacture, the main decorative interest, in addition to certain motifs such as arcades and spirals, seems to have been the play of light and shadow. This was achieved through the three dimensional moulding of neck collars on ewers, and deep mid ribs, arcades and running spiral patterns done in repoussé, and seen particularly on gold and silver straight-sided cups from Graves III and IV of Circle A at Mycenae (e.g. type 9a/9b, Davis 1977:cat.nos.25-28,31-37,55-59,) as well as ewers (type 41a, ibid:cat.no.43; Matthäus 1980:cat.nos. 253,281), and some gold one-handled and globular cups from Peristeria and Dendra (types 12g,13d Davis 1977:cat.nos.101,110), almost all of which are believed to be of mainland manufacture. There are also some examples of figural decoration typified by the Battle krater and Siege rhyton (Davis 1977:cat.nos.86, 87). In fact, where repoussé is used in mainland vessels, it is almost always quite deeply executed no doubt to achieve these effects of light and shade, even though such deep work may at times have threatened to overly weaken the walls, and thus potentially spoil a vessel before it was finished.

There is thus a pattern whereby many of the most elaborated vessels that are believed to be of Cretan manufacture occur only in mainland contexts, and possible examples of this include many of the metal vessels found in the Shaft Graves. The multiple



techniques, and sometimes metals, combined in their construction and decoration would have involved considerable extra skilled time which would have added to their value, as would the less tangible perception of skilled crafting. This perhaps then gives further reason to consider that vessels with these types of decoration were made specifically for export from Crete and/or high level gift exchange.

#### 6.2.4 Construction Techniques

During this period the huge expansion in the quantity and variety of metal vessels is accompanied by an unprecedented growth in the forming techniques used, particularly in the precious metal vessels. Riveting, fusion and various forms of soldering were used widely for joining purposes, with some parts hammered and others, usually handles, cast and joined. The strengthening of rims, feet and handles, achieved by wrapping the edges around copper wire cores, is seen particularly in vessels of Cretan manufacture. Some mainland-made vessels exhibit this technique, although interestingly this occurs on vessels which apparently were intended as imitations of Cretan vessels (Davis 1977:337). Apart from certain components such as spool, rod, wishbone and some strap handles, which were cast, all of the Aegean vessels were raised by hammering. Hammering into moulds was another means of achieving handles with a contoured upper surface other than using repoussé. Such cast components are found almost exclusively on Cretan-made vessels (ibid:1977:336). The bases of vessels are generally plain or else have a slightly raised foot, occasionally with a torus moulding, or else a very few are slightly raised in the centre with concentric circles. Other techniques connected with the decoration of vessels include repoussé, plating by fusion coating, gilding, inlaying, patination and punched designs. In terms of the bronze vessels, generally the more basic techniques of hammering and riveting were used, but casting and repoussé was also employed, and in the case of one of the most ornate shallow basins from Malia (type 26b; Matthäus cat.no.327), the rim was attached by soft soldering, which produces a more elegant and neater finish and avoids damaging the relief decoration on it. The latter technique, using an alloy of lead and tin, was a Near Eastern invention, with the earliest example appearing on a copper temple relief from Al Ubaid which dates to the mid third millennium. (ibid:329).

With respect to alloying, no pattern emerges of specific alloys having been used to make particular shapes. As Evelyn has observed, analyses made of LM II/III pieces from various contexts at Knossos show a wide range from pure copper to 20% tin bronze,



although most are in the 5-10%tin range (1993:530). He also notes that it is not clear whether a principle lay behind the choice of metal types and alloys, and if so what this may have been, suggesting that the alloys may have been a result of what metal stock was available, and posits that it is possible that the high (20%) tin level on masking bands may have been used to provide a silvery tone to the metal (ibid:531). I would suggest that, given the Cretan liking for colour contrasts noted in the preceding section, the high tin alloy used in certain places on vessels may well have been for this purpose.

A notable new technique on the Greek mainland in this period is the construction of large bronze vessels from several plates riveted together. This technique was also used on some of the more substantial precious metal vessels, identified as being of Cretan manufacture but found in the Shaft Graves, Dendra tombs and at Kazarma, which are constructed from several pieces joined by small rivets (Davis 1977:348). However, in these cases the joins are designed to be inconspicuous, whereas on the large bronze examples, which are cauldrons (types 49a, 51a), kraters (type 56a) and footed ewers (types 42a, 42b), this does not seem to have been a consideration.

In terms of technological styles, Davis has summarised these as part of her analysis of the gold and silver vessels, and what is notable is that far more techniques are found on those vessels attributed to Cretan manufacture than to those of mainland manufacture. Cretan workmanship is predominantly characterised by the use of copper reinforcements (ibid:337), large hemispherical rivet heads made through punching or moulding and often deployed in threes and incorporated as a decorative feature (ibid:339-40), moulded handles as particularly seen on the more elaborate versions of the shallow basin (type 26b), thickened edges and rims (ibid:341), fusion (ibid:344-5), gilding (including rivet heads ibid:342-3), inlaying (ibid:345-6) and a form of patination known as black bronze which has a similar dark shiny appearance to niello (ibid:219). The principal mainland features which she has identified number only four and include flat or slightly rounded rivet heads, a raised floor with raised boss and ring, the handled strengthened by rolling it around bronze wire and the deployment of two rivets at the join of handles at the rim of a vessel (ibid:334). While this area-specific division of techniques will at least in part have been the result of choices on the part of the smiths that were informed by certain cultural idioms such as, perhaps, in the case of the mainland products, a tendency towards vessels that are simpler in form and line, it is worth noting again the high quantity of Cretan products that the mainland elites



imported. This seems to suggest, in line with the generally less developed nature of the mainland vessels noted previously, that the smaller range of less complicated techniques seen in the mainland material is more a reflection of the stage of their metallurgical development.

### 6.2.5 Depositional Contexts

A notable contrast in the distribution of metal vessels in this period is that functional bronze vessels, as well as a few silver examples, derive largely from high status Cretan domestic contexts, whilst vessels of all metals found on the Greek mainland, where contexts are recorded, come exclusively from graves. The same depositional situation to Crete is seen in the Aegean islands also, with the exception of the type 26b shallow basin from Skopelos which was supposedly found in a 'king's grave' (Matthäus 1980:cat.no.336).

At Knossos the majority of the vessels come from the basement cell of the Stepped Portico in the palace and include a lekanai (type 19a), two shallow basins (type 26b), six two-handled shallow pans (type 28b) and an open mouth jug, all of which are undecorated. Only in the north west Treasure House were found decorated vessels in the form of the shallow basins with broad rim and vertical loop handle (type 26b), and only in the Pillar Crypt of the South House were found silver vessels including a jug (38a) and three bowls (types 15b and 15c). The few remaining vessels, which included a plain and quite functional looking footed ewer (42a), three tripod cauldrons (type 51a) and a lamp, were distributed between the Unexplored Mansion, various houses and a spot near the South House. Two impressions derive from this combination of vessel types and contexts. Firstly, that this collection is fairly meagre, both in terms of quantity and variety of types, compared to what we might expect to have been stored and in use in the principal palace of Minoan Crete at the time of its zenith. Removal and/or recycling may well account for this. The second concerns the role and functions of metal vessels in the palaces and related nearby houses. In the latter, as well as the two-handled pans from the basement cell, it is apparent that they played an everyday domestic role for cooking and lighting. The more elaborate and decorated shapes from the heart of the palace itself indicate more of the palace ceremonial and ritual functions, perhaps libation, for which we might expect them to be used. For the purposes of comparison with another palace, the vessels from Zakros were all found distributed through various palace rooms, with the exception of the silver with gold and electrum



lobe spouted jug, which came from a storeroom in the west wing of the palace. With the exception of one shallow basin (type 26b), which has decoration in the form of double axes around the rim, all of the other vessels from this site are of a functional nature, are undecorated and include six cauldrons of the type found at Knossos (type 51a), a shallow pan, ladle, lamps, sieve fragments and a ewer (type 41a). Thus from here too comes the impressions that the metal vessels were used for both functional and ritual purposes (the decorated shallow basin), and that the bulk of the metal vessels were removed prior to, or as a consequence of the palace's destruction.

Interestingly, apart from the one grave at Phaistos which contained an undecorated shallow pan (type 28c), metal vessels were only really used as grave goods at Mochlos, where four types, all actually or potentially connected with drinking, have been found. Furthermore, these included types that are only found at Mochlos, or else only at the palatial/high status sites such as Knossos, Tylissos and Malia (see Fig.6.4), and in the case of the Vapheio cup, at Mycenae, Dendra and Vapheio on the Greek mainland. In the Mochlos houses also, a certain affluence is seen and is particularly well demonstrated by the large number of shallow basins (type 26b), several of which were elaborately decorated on the rims and handles (cf. my cat.nos. A.X-A.XIV). In fact the number of these basins from Mochlos are almost equal to all examples found on Crete. This seems to suggest two related points. Firstly that the location of Mochlos, which may have favoured intra-and inter-regional trade, promoted a certain accumulation of wealth here. Secondly, that this wealth and kudos gained through trade, combined with the town's distance from the principal site of Knossos, enabled the elite of this site to gain a certain autonomy of sumptuary expression, which was expressed, unusually for Crete, through the mortuary and domestic sphere.

Elsewhere on Crete there is a fairly uniform distribution in domestic contexts of the same spread of basins, pans, cauldrons and ewers, with the occasional unremarkable variation from this pattern. As already noted above, in the islands also the depositional contexts follow a largely domestic pattern, with the exception of the grave on Skopelos. In addition to the shallow basin, this putatively royal grave also contained an amphora (type 57a), a type only found on the mainland (Matthäus 1980:161). The type 26b shallow basin, and also its smaller version, which occurs several times in precious metals (type 26c), is a shape attributed to Minoan craftsmanship (Davis 1977:158). Several examples of the smaller version have been found in mainland graves and it may



be that the Skopelos example came from Crete also, via the Greek mainland. The same may be the case with the shallow basin found in a domestic context on Rhodes.

Turning to the Greek mainland, little remains to be said in addition to the comments made above regarding the depositional contexts, namely that all of the vessels come from graves, as well as the comments in section 6.2.2 concerning the distribution of types between sites. In terms of the Shaft Grave material, there are two further points which may be significant. Firstly, that although gold was abundant in Grave III, this grave contained significantly fewer precious metal vessels than the other graves, and was occupied by three female burials. Furthermore, Davis has drawn attention to the consistent 2:1 ratio of mainland and Cretan-made vessels and other items in this grave, and based on this, suggested that this grave perhaps contained one woman with Cretan connections (1977:245-6). Secondly, that of the six precious metal vessels found in the earlier Grave Circle B, five of these have been identified as being of mainland manufacture by Davis (*ibid*:334). The one vessel of Cretan manufacture is the gilded silver jug from grave Alpha. These points, combined with the small amount of metal vessels in total found in the earlier grave circle, suggests that at the time of Grave Circle B, the Mycenaen elite were not yet at a stage where they could so easily procure, either through trade or elite gift exchange, prestige items from Crete, and that there was an exponential leap in wealth in the period between the two grave circles.

Another notable point is that, as with those found in contemporary Cretan graves, but in contrast to the metal vessels from Anatolian graves of preceding periods, the metal vessels do not appear to have been intentionally crushed or damaged in any way prior to deposition. However, this does not detract from the overall highly ritualised context and means by which the metal vessels were deposited in these tombs. Also, from the substantial quality of most of the vessels, combined with the skill expended in their construction and decoration, it is reasonable to infer that they were made to be used in life rather than made solely as flimsy grave tokens. Furthermore, the variety of types seen particularly at Mycenae, from drinking to cooking vessels, and ritual paraphernalia through to trinket/unguent containers, as well as the individuality of many of them, implies that they were originally more likely to have been the personal possessions of elite individuals during their lifetimes. Their deposition in the graves was therefore as much a message about the status of the dead individual, as one regarding the wealth and power of their survivors (Treherne 1995).



### 6.2.6 Intra- and Inter-regional Influences

While Davis has hypothesised through her technical and style analysis of Aegean precious metal vessels that 59 examples of this period are of Cretan manufacture, only 6 of these have actually been found on Crete. Of the rest, 50 are found on the Greek mainland, divided between various sites as follows: 37 from Mycenae, of which the majority are from Shaft Graves IV and V, nine from Dendra and four from the Vapheio tholos (fig.6.6). This lends support to my hypothesis regarding the gap in the SPP Cretan corpus, that Cretan smiths were making precious metal vessels predominantly for export, although it should also be remembered that there was not a tradition of burying such ostentatious goods with the dead on Crete and this may also account for their not having become trapped in the archaeological record. With the rise of the elites and increased wealth on the mainland, another market, closer to home than that of the Near East, emerged for the Cretans, which was perhaps fed through outposts in the Cyclades. That precious metal vessels do not feature at sites in the Cyclades, and this despite the well preserved snapshot of island life produced through the volcanic eruption on Thera, further supports the theory that Cretan smiths were producing gold and silver vessels largely for export outside of the Minoan sphere of influence. In this regard it is also worth noting at this point that one gold and four silver vessels catalogued by Davis (her cat.nos 140-144) which were found in Cyprus, have also been interpreted as Minoan products (1977:313-324).

Although there are only three extant HOK metal vessels to act as comparanda for the SPP Aegean corpus, it appears safe to say that contemporary Anatolian work does not seem to have particularly influenced the techniques used in, and style of Aegean metalwork. On the contrary, both Minoan and Mycenaean vessels evidence local development and, if anything, intra-regional influence. Anatolia can only really be seen as having exerted a much longer-term, and attenuated influence on Aegean metal vessels, dating back perhaps to the beginning of the second millennium, which by this period survives only in a general way, as seen in the simple lines and shapes of the Greek mainland vessels, in particular the kantharos, the use of a raised boss and concentric ring in the base of vessels, the taste there also for grand drinking shapes as in the EBA Troad, and in Minoan work, the practice of extending the handle in one piece from the rim (e.g. Davis 1977:cat.nos. 18, 68, 74, 98. Four vessels dating to the TPP also display this technique: *ibid*:cat.nos.19, 20, 130, 133). The silver cup from near Heraklion museum (*ibid*:cat.no.18) also has a raised central boss and concentric circles



in the base, as seen in many EBA Anatolian vessels, and also many of the SPP Greek mainland vessels, particularly cups from the Shaft Graves and Peristeria (Davis 1977:334). But particularly indicative of central Anatolian influence is the handle type which, like those from Alaca, is not attached at the lower terminus. Two silver cups from the Shaft Graves (ibid:cat.no. 68 from grave.IV, and cat.no. 98 from grave I) also have the lower handle terminus unattached, and Davis believes both of these may have been imported from Crete (ibid:194, 248). This also somewhat supports the suggestion made in Chapters 4 and 5 above that Cretan metal vessels appear to have been influenced by central Anatolian styles and techniques, and Greek mainland ones by those of north west Anatolia.

An indication of contact in this direction, as opposed to influence exhibited through the work of the smiths, is seen in the silver/lead stag rhyton from Shaft Grave IV (cat.no. A.XXXVII), which has been convincingly identified as Anatolian (Von Bissing 1923-24:106). Davis interprets this piece as evidence for Anatolia having been a source of silver for the Mycenaeans, presumably meaning during this period (1977:234). However the style and subject of this rhyton has no HOK parallels in ceramic, glyptic or textual references that I have been able to locate. But in terms of iconography, it would fit well with that of EBA north central Anatolia. Three-dimensional models of stags have been found in several of the Alaca graves and, as the rhyton appears to fit more closely with the cultures of this period and region, I would suggest tentatively that its presence in Shaft Grave IV represents an heirloom rather than an indication of contemporary metals trade with Anatolia.

The only indication of a new technique adopted from outside the Aegean is the use of a form of niello on items of Cretan manufacture found in the Shaft Graves (Davis 1977:cat.nos. 43, 83, 86, 87). True niello is a very complex process involving the reaction of silver and copper with sulphur to form sulphides which give a glossy black decorative surface, and as it was used in Byblos at an earlier period (Davis 1977:214), Bloedow has consequently proposed that the existence of this form of decoration on mainland vessels suggests some form of contact between the mainland and Syrian smiths (Bloedow 1997:446). However, although Davis arrives at the same conclusion that it was probably the Mycenaeans who introduced true niello to the Aegean (1977:214), she has commented that the substance used on the vessels from the Shaft Graves is probably not true niello (1977:213), and has also concluded that the vessels on



which it occurs are all Cretan in origin (ibid:152). She also discusses the problematic issue of where this technique was originally invented, in an effort to elucidate Mycenaean overseas contacts at this time, citing Egypt and Syria as the prime candidates. However, as she concludes, more chemical analyses of the nature of its occurrence on Aegean objects is needed before the distribution of this technique can aid in the unravelling of the historical relationships of the various craft traditions of the BA eastern Mediterranean (ibid:220). The other technique seen in this period which was originally devised in the Near East is soft soldering, seen on the ornate shallow basin from Malia (section 6.2.4 above). However, in view of the fact that its first occurrence was in the mid-third millennium, and that by this point it was widely used in neighbouring areas, it can hardly be classed as a direct influence on Aegean metallurgy from this direction.

### 6.3 Summary

A major question concerning the material of this period is the how a 'Mycenaean' tradition apparently developed so quickly on the mainland, particularly if Davis' contention is accepted, that there were already superior Minoan products in circulation in the Aegean prior to the appearance of the Shaft Grave material (1977:133-4). One scenario is that smiths on the mainland had been making vessels for much longer than is apparent from the archaeological record, albeit using more basic techniques, perhaps originally learnt from Anatolian contacts, but that these earlier vessels have not survived. Perhaps Minoan smiths were able to become skilful specialists and hone their techniques earlier, due to the establishment and patronage of the early palatial elite on Crete. The Minoan smiths probably also had the benefit of early knowledge of the techniques of the Near East, enabled by Cretan international contacts which expanded during the FPP.

Davis' model is plausible but could be criticised as being somewhat circular, based as it is on her own attributions of what constitute Minoan and Mycenaean features of metal vessels. However, this criticism can be mitigated given that in general she supports these attributions by reference to contemporary ceramic decorative motifs and other minor arts. While it is evident, primarily from the differences in decorative and technical styles, that there were at least two traditions of metalworking in the Aegean at this time, there are other explanations for the appearance of ostensibly Minoan products in such quantity in the Greek mainland graves. Mainland smiths, or smiths of any



eastern Mediterranean origin for that matter, could have trained in the Cretan palace workshops and afterwards settled on the mainland where they would have produced initially Minoan style vessels, and perhaps subsequently some of a different and/or combined Minoan/Mycenaean style stimulated by local tastes. Another alternative is that the Minoan style vessels arrived on the mainland as part of the round of diplomatic gift exchanges. It therefore remains problematic in some cases to distinguish between straight imports and locally made metal vessels on the mainland, and also to determine the mechanism by which any of them reached their final destinations.

However, what can be said with some certainty is that many of the gold and silver vessels found on the mainland are of Minoan style, resembling shapes known in clay, stone and bronze from Crete. On the other hand, the 'Vapheio' cup with midrib and the plain kantharos are more akin to mainland shapes, and certain unique creations, such as the Battle Krater and 'Nestor's' cup, as well as the numerous stemmed goblets (LH I/II), appear to be more in line with mainland tastes as witnessed also in the pottery. Additionally, the krater is a shape found to date only on the mainland. The possible (western?) Anatolian source of the mainland/Mycenaean metal vessel tradition has already been mentioned, and may be perceived in certain shapes (the kantharos and long-stemmed goblets) as well as more generally in a predilection for vessels with simpler, straighter lines.

Moving away from these partially intractable debates concerning the definitive origin of certain metal vessels, the above discussion has highlighted two related facts which are more pertinent to the question of gaining a social perspective from these objects. Both relate to a style of usage of these objects, and highlight that the elites of the Greek mainland and of Crete were using metal vessels in quite different ways. We see this in both the forms that it was decided metal should be made into, and the ultimate depositional contexts of them. On Crete we see a preponderance of bowls, jugs, pans, basins, cauldrons and lekanai, but what is largely missing, particularly from Knossos, are the drinking shapes, elaborate or otherwise. Conversely on the mainland, in addition to the latter forms, there is a great variety of cups and goblets, predominantly in precious metals and often embellished. In terms of use context, on Crete they were very much a part of the world of the living, mostly practical in nature, whereas on the mainland, perhaps in addition to being used as part of elite life, their ultimate role was as signifiers of wealth and power in the mortuary sphere. The latter was the arena of



choice in which power games were played out, and the primary means by which the elites of different centres competed against each other for political ascendancy.

Given these observations, the absence of elite Minoan burials up until the end of this period, and the general lack of ostentation seen outside of the palatial and secondary centres, I suggest three conclusions regarding metal vessels and the social situation on SPP Crete. Firstly, that metal vessels were practical adjuncts to everyday life and perhaps also acted as a store of wealth. Secondly, that closer long-term involvement with neighbouring cultures, and participation in widely recognised international elite practises, had not fundamentally influenced Minoan culture to the point of the insignia of power being manipulated in new and alien ways, such as in the funerary arena. Such ostentatious, public displays, were both inappropriate and politically unnecessary. Thirdly, and contrary to the situation on the mainland, the use context patterning of metal vessels on Crete does not suggest active and socially aggressive internecine rivalry on Crete at this time. In terms of the metal vessels, the only indication of the primacy of Knossos is seen in the almost exclusive occurrence there of silver vessels, the only exception being the single silver with gold and electrum jug from the palace of Zakros. This fact may be a particularly cogent indicator regarding the status of Knossos, given the possible indicators of social and economic flux towards the end of this period (Driessen and MacDonald 2000). Another consideration is that more bronze vessels, including drinking shapes which are absent at Knossos, have been found at Mochlos, and almost as many at Zakros. Additionally, the variety in forms, as indicated by number of types found at each of these three sites, is also comparable and as noted in section 6.2.2 above, there is a lack of exclusivity of forms at Knossos with several types found at various sites across the island.

A possible scenario, therefore, is that during and following the initial SPP floruit seen in many aspects of the Minoan material culture, the Knossian workshops focussed on producing metal vessels both for internal use and, perhaps more importantly, for export to generate wealth. Knossos was established as the principal palatial site and drove the style of much of the island-wide material culture, as seen also in the island-wide distribution of several distinct types of metal vessel. It dominated particularly the centre of the island, a fact which is reflected in the lack of metal vessels at nearby elite sites such as Phaistos, Hagia Triada and Tylissos. In the extreme east of the island Zakros, perhaps benefiting from its distance from Knossos, enjoyed a degree of



autonomy seen partly in the comparable quantity and kind of metal vessels found there. The quantity of bronze vessels at Mochlos, and the comparative wealth this suggests for a non-palatial site, may perhaps be explained by its location which may have provided a strategic advantage over other north coast sites in terms of off-island trading. The lack of metal vessels from Poros-Katsambas, identified as the port of Knossos, where also metal workshops have been found, can be interpreted as a factor of Knossian control over the production and supply of elite goods. In the next chapter, the patterns perceived through changes in the distribution of types and metals used, as well as the depositional contexts, indicate shifts in the political and social makeup of the Aegean. In Anatolia, the metal vessel record picks up once again to afford an albeit fragmentary insight into the period covering the end of the Hittite Empire.



## Chapter 7 – Aegean and Anatolian Metal Vessels of the Late Second Millennium

The apparent recovery in the size of the Anatolian metal vessel corpus seen in this final period of the LBA belies its somewhat disparate nature and patchy distribution. While there is a superficial continuation of the simplest shapes, certain new forms apparently suddenly appear, and whole classes of vessel are not represented. This suggests firstly that there was a period of stylistic development which must have occurred during the HOK but for which, as we saw in the previous chapter, we have virtually no data. For example, the HOK metal vessels could give no indication of the types of HE period wide-mouth jugs and rhyta which suddenly appear, known in detail only because of the serendipitous discovery of a hoard near Kastamonu, north of Ankara. Prior to this hoard being found, our knowledge of the original existence of such vessels was based on texts, such as the HE inventory text from Maşat Höyük that states there were thirteen silver rhyta in use at this site alone (Özgüç 1993:489). Furthermore, this text indicates that silver vessels were more widespread than the extant metal vessel record suggests, and further, confirms the correlation in the HE period at least of the use of silver in ritual vessels, although, as I propose in Chapter 8, ceramic skeuomorphic rhyta suggest silver versions existed as early as the OATC period. While the Kastamonu collection is a useful data set that expands our knowledge of HE period metal vessels considerably, it nevertheless represents a narrow functional area, and so is therefore unlikely to be very instructive regarding the wider range of metal vessels that originally existed in Anatolia at this time. With respect to the latter, the evidence consists principally of the bowls from sites such as Maşat Höyük and the single jug from Arslantepe, which suggest both the wider existence of, and types of vessels that were in use at important secondary settlements. However, the wider range of kitchen vessels is largely missing, and there are only hints of the more elaborate display vessels in the form of a couple of unprovenanced vessels. What may originally have existed at the capital, Boğazköy, is thus largely conjecture and can perhaps only be inferred from indirect sources such as the ceramics and glyptic (see Chapter 8).

In the Aegean, the TPP largely sees a continuation in stylistic terms of the previous period but with a noticeable change in the amount of precious metal vessels on the Greek mainland, and the rich use of metal vessels in grave contexts on Crete. While



the first may be a result of robbing in antiquity, the second reflects the cultural and political changes which were experienced on Crete at this time, involving in some form the extension of mainland influence, and creating both a need, and a means by which, to compete socially for prestige and power. In the early part of the period there is a definite nucleation of control over the supply and use of metal vessels centred on the Knossos area. This situation is echoed in the tight organisation of crafts suggested in the Linear B tablets, with its implications of close interconnections affecting creative expression, and cross-craft influences. This is seen both within the metal vessel corpus, for example, silver, gold and copper being worked on same item, and through the motifs seen in a variety of media including metal inlay, stone, fresco painted ceramics and faience. This second bloom of creativity and continued development of skills largely comes to a halt with the destruction of Knossos at the end of LMIII A, after which the few fragmentary vessels which can securely be dated to this period reflect the loss of centralised wealth and patronage of the crafts.

### **7.1.1 Overview of the Anatolian Corpus**

As noted above, although there is far more material from this than the previous period in Anatolia, there are still many gaps, both in terms of geographic distribution and the spread of types, that hinder a comprehensive reconstruction of HE metal vessel production and use. The somewhat disparate nature of the surviving corpus once again raises the question of whether the resultant picture represents the ancient reality, or whether it is possible to read between the lines and determine that the surviving corpus provides a highly imperfect reflection. Although this is a perennial problem both with metal vessels in particular, and many other archaeological data sets in general, and a question which it is not possible to resolve conclusively currently, the following discussion at least contributes some insights into the role of metal vessels towards the end of the LBA, which future discoveries and research will augment.

The corpus consists of a sprinkling of vessels from seven settlements, a hoard, two shipwrecks and seven unprovenanced vessels. The quantities from the settlements range from one to a maximum of four vessels at any one site, the most coming from Tarsus. It is also notable that several of the surviving vessels come from sites (Fraktin, Maşat Höyük and Arslantepe) which have not produced metal vessels in previous periods. Additionally, apart from the four pieces from Troy, Beycesultan, Boğazköy and Alisar, a distribution pattern that is more orientated from the central area towards



the east can be perceived. This preservation pattern may be a factor of the expansion eastwards that the Hittite Empire was experiencing during this period.

The largest collection of vessels comes from the Kinik Kastamonu hoard, and it is this group which also evidences the widest variety of vessels from any one assemblage. The excavators have hypothesised that this collection of vessels originally came from a sacked Hittite temple and that they were carried over the Hittite/Kashka border where they were buried, perhaps for later retrieval (Emre and Çınaroğlu 1993:702). If this was the case, and it fits quite well with the textual evidence for silver vessels having been used in Hittite temples (Goetze 1955:397), the richness and iconography of the vessels make it quite possible that they may even have come from one of the temples at Boğazköy which, according to present knowledge, was one of the closest principal centres with temples to the vessels' find spot.

The vessels from the Ulu Burun and Cape Gelidonya shipwrecks, which admittedly could have originated from many locations in the eastern Mediterranean, have been included in this corpus for reasons of completeness and also because they were found close to the Anatolian coast, and thus it is possible that at least some of them were collected from coastal ports prior to the wreck. They contain a mixed assortment of shapes, and in the case of the Cape Gelidonya wreck, largely fragments that was scrap for recycling, which could have come from a variety of sources other than Anatolia, and which include the offering stand pieces and pilgrim flask (see further below section 7.1.6). It is also notable that is only from these wrecks that vessels made solely of tin have been found anywhere in Anatolia, or the Aegean, at any time during the BA. Additionally, Ulu Burun is the only site from which a metal pilgrim flask, a shape so well known from, and until this find, exclusively associated with pottery, has been recovered. The metal vessels from these wrecks are thus important inclusions in the current discussion.

Finally, it is intriguing that the unprovenanced vessels are, with one exception, made of silver. Given the preponderance of bronze vessels from Anatolia at this time, and also during the preceding two periods, this observation might raise the issue of whether these vessels' authenticity should be questioned. While the hemispherical bowl and the strap handle are not remarkable and could quite easily fit with material found at several sites from both this and the preceding periods, the fist rhyton has no parallel, nor have I been



able to find any iconographic references to such a shape. However, this does not necessarily militate against its authenticity, especially given the lack of archaeologically identifiable elite burials from this and the preceding periods which, if found, would most likely change the received picture regarding more unusually shaped metal vessels such as this one. What such graves might look like is uncertain, however, as there are some indications in Hittite glyphs and texts that cremation was practised (Alp 2000:44,48).

The bull rhyton, although different from the Kinik-Kastamonu rhyta in that the whole of the bull is shown in the round, certainly finds parallels with the latter, as well as with depictions on the Inandik vase, figurines and cylinder seals (ibid:18, 43, 47, 80). Additionally, the fact that this vessel and the other rhyta appeared on the market prior to those from Kinik-Kastamonu being found and published, further weighs in favour of their authenticity. That these unprovenanced vessels are made almost exclusively in silver may find an explanation in the probability that they came from illegally excavated (elite?) graves, which would be a 'natural', and historically is a common, trap for precious metal vessels. What is notable is that, among both the unprovenanced vessels and those from the Kinik hoard, no gold or electrum vessels were included. As noted below in section 7.2.1, precious metal vessels are far fewer in this period in the Aegean also, and thus these absences in Anatolia may be a reflection of the lesser availability or affordability of these metals towards the end of the LBA.

### **7.1.2 Form and Function**

The dearth of vessels from the preceding HOK period means that there is little utility in making comparisons between it and the HE period, and that therefore the closest period for the purposes of comparison is the OATC. Although the number of types represented in the corpus of the HE period (29 types see Fig.7.1) is roughly comparable with those from the OATC period (31 types see Table 5.1), there is actually far less variety in the classes of vessels represented. The initial appearance of a similarly large number of types is due to the fact that in the former there are many vessels which fall under the type heading of 67, that is, fragments of vessels which come from either unknown shapes, or else which, because of their fragmentary nature and lack of diagnostic features, cannot be securely attributed to known shapes, although they may well have come from such. Thus beneath this superficial impression of variety, there is a reduced spread in the classes of vessels represented.



Those shapes represented in the HE period include a small jar, four varieties of bowl (hemispherical, omphalos, necked and base ring), two distinct types of jug (the more closed cylindrical neck and more open round mouth kinds), a rounded, wide-mouth cauldron, three types of rhyta, a small ritual bucket, two varieties of tripod stand, and a strainer/sieve. Despite the narrow range, what is noteworthy are the new shapes that appear suddenly, and in quite developed form in this period, indicating that there was a developmental phase, particularly a stylistic one probably during the HOK, that is missing from the record. Most likely earlier, perhaps less developed, versions existed which have not survived. Aside from the Ulu Burun pilgrim flask, which has Aegean rather than Anatolian parallels, these include the new types of open- and trefoil-mouth jugs, the rhyta and tripod stand, all from the Kinik hoard. The shape of the jugs are quite unlike anything known previously in Anatolia, but they are also known from contemporary Cyprus (see further below section 7.1.6 below).

Both the Kinik and unprovenanced animal rhyta fit well with Hittite iconography and the involvement of animal-shaped items and animal-headed gods in cult, examples of which have already been noted above. Furthermore, zoomorphic vessels are mentioned in Hittite texts as BIBRU, and it has been suggested that in addition to their use as libation vessels, they may also have been drunk from during rituals (Alp 2000:71). Such iconography and ceramic versions of such vessels were thus a very much established part of Hittite culture, with the metal versions being one type of object that featured in the much wider, pan-eastern Mediterranean round of high-level diplomatic gift-giving, and which adhered stylistically to a prevailing 'international style' of inter-elite gifts (Peltenburg 1991). However, but for their theft and subsequent deposition in antiquity, we would still be ignorant of the existence of such vessels made of metal. Unsurprisingly then, it seems that stylistic, and concomitant technological development, was being driven by the temples and no doubt the court. Given the likelihood that the Kinik vessels came from a temple it seems that, apart from the rhyta, jugs and bowls were also used for cult purposes, perhaps for containing offerings and also as another means of making libations. Jugs, albeit of different shapes, are seen in seal glyphs being used for this purpose (Alp 2000:84, 85, 87).

As discussed in section 7.1.3 below, the decoration on some of these vessels supports their interpretation as having been used as cultic vessels. Another, more indirect connection between function and vessel class is suggested by the bucket with a basket



handle which has a distinctive form of attachment, the handle ends being looped through holes near the rim. This technique of handle attachment, as noted in Chapter 5, existed in more sophisticated form at OATC Kültepe on vessels that were functionally the same as this vessel, if differently shaped. Whereas the bodies of the latter were shaped quite differently from other contemporary vessels, the Kinik vessel has a body very similar in shape to the jugs found in the same hoard, the handle type changing the way, and perhaps the function for which it was used. The buckets from Kültepe were all found in graves and the shape of one in particular, the small bucket made of thigh-shaped bulges which is reminiscent of earlier goddess vases (cat.no. 279), suggests a cultic purpose for it. Perhaps then the presence of this vessel, found in a hoard that is believed to have come from a temple, suggests that this shape of vessel had, by the LBA, a well-established historic connection with cult in Anatolia.

The remaining items not included in this list comprise vessels which, based on their shape and/or decoration, appear to be non-indigenous creations (the type 4g pilgrim flask and type 62a dish), and various fragments of mainly rims, handles and feet which cannot be attributed to either a known shape (the spurred vessel foot from Tarsus and wishbone-like handle fragment from Alişar), or else to a single shape (the reed and strap handles which could come from various kinds of cups and jug, and similarly the cauldron (rims). Aside from the latter outliers and varia there is thus a restricted range of shapes that can be divided, on the whole, into those items made for functional domestic applications and those which were used for cult purposes.

Having said this, there are five hemispherical bowls/cup and a jug, all from domestic contexts at the sites of Tarsus, Maşat, Fraktin and Arslantepe (Fig.7.2) which may have been used for the purpose of presenting and consuming liquids. Apart from the jug, which is elaborated through its overall design rather than by means of surface/applied decoration, they are all plain vessels made exclusively of bronze (Fig.7.3), and so are unlikely to have been display items. Nevertheless, they do give an indication that simple metal vessels may still have been used for social/drinking purposes, if only by military/municipal leaders of these towns, but that the circulation of precious metal vessels was strictly controlled (cf. Fig.7.4). The surprising lack of vessels in any quantity at the capital of Boğazköy, a picture mirrored also at Beycesultan, and Alişar, and the total absence at other important Hittite sites such as Alaca, may perhaps once again be explained by their having been removed prior to the destruction of these towns.



Given the size and importance of these sites during the HE period, it is difficult to believe that there was not originally a very large quantity and variety of metal vessels, especially at the capital. Textual references to cup-bearers, festivities involving alcohol, dance and music, as well as iconographic depictions of social and ritual drinking, further support this contention (Alp 2000:60, 67, 72).

More generally, the shapes seen in the HE corpus include several which, by this late period, appear to be more common across the wider eastern Mediterranean area (see further section 7.1.6 below). In addition to the hemispherical bowls which seem, probably due to the simplicity and multi-utility of their shape, to be common to several areas and periods, the deeper, highly carinated bowl, rounded cauldron with wide mouth, cylindrical neck jug, round mouth jug and wishbone and spurred handles are also found in the Aegean and more particularly Cyprus (Matthäus 1980:fig.73; Niklasson 1983:205, fig.490). While the discovery of vessels that were made for use by the court might change the picture considerably, I suspect that the HE corpus is a fairly reliable reflection of a generally more homogenised style in metal vessels across Hittite Anatolia towards the end of the LBA.

### 7.1.3 Decoration

Given the comparatively small size of the corpus and the narrow range of types, quite a large proportion is decorated. More than 25% (23 of the 84 items) have some form of surface decoration, and this is in addition to items which show elaboration in their shape, primarily achieved through carination, concave necks and everted rims on bowls and jugs (e.g.cat.nos 314, 319, 322, 379, 327, 310), the trefoil mouth on jugs (cat.nos. 319,-321), and the bulbous belly, long neck and foot of the Arslantepe jug (cat.no. 305. Niello is also reported to have been found on the unprovenanced silver stag rhyton in the Schimmel Collection (cat.no.385 Davis 1977:220), and there is also some gilding on this piece. Although decoration is not entirely restricted to silver vessels, it is only found on three bronze vessels including the unprovenanced dish which is believed to have come from a grave (cat.no.380, Moortgat-Correns 1993), the Beycesultan jar (cat.no.304) and the bowl from Maşat Höyük (cat.no. 310). Nor does there seem to be a pattern of it having been applied only to certain shapes, although functional items such as cauldrons and sieves are not decorated, but conversely, not all examples of a shape on which decoration is found are necessarily decorated. For example, not all of the type 36c jugs from Kinik are decorated, nor are most hemispherical bowls, although two also



from Kinik and one from Maşat Höyük are decorated. Nevertheless, the general picture that emerges, given that the main locus of decoration is the Kinik vessels, is that it is predominantly silver vessels that had some form of ritual purpose, whether cultic or funereal, that were decorated.

The decorative highlight of the vessels of this period is the intricate modelling and repoussé work found on the unprovenanced rhyta, and also further features on the Kinik rhyta. The latter consist of a bull's head modelled in the round, with protruding ears and horns attached by rivets, and all of the facial features expertly executed. The neck area forms the mouth and rim, where liquid would have been poured in. There is no lower exit for liquid apparent, and thus these vessels are similar in construction and the way they would have been used to the other Anatolian rhyton from EBA Alaca, but the antithesis of Aegean versions. They also have a strap handle attached either side of the head and so would have been carried more in the fashion of small buckets.

The unprovenanced fist and stag rhyta have friezes around their upper openings featuring gods, humans and animals in ritual processions and acts. The deeper hemispherical bowl from Kinik (cat.no.325) is also decorated with figurative friezes, but in this case the subject matter is stags, lions, boar and bulls being hunted. There are also other motifs featured on this bowl, the rosette and tree of life, which by this point are of considerable antiquity and known from a wider area than Anatolia, from third millennium Mesopotamian cultures through to late first millennium Assyria. They variously appear in scenes carved on cylinder seals and stone reliefs in association with religious/ritual scenes. Another motif of some longevity is the swastika, which appears surrounded by half moon shapes in the centre of the unprovenanced bronze dish (cat.no.380). This vessel is also decorated with a wide frieze of animals, including bull, stags, birds, hares and plants and, as noted above, is believed to have come from a grave. Given that the previous occurrences of the swastika was on EBA metal vessels from graves at Alaca and Amasya-Mahmatlar (cat.nos. 34, 101), the former also having a swastika surrounded by half moons, it seems quite likely that this is an emblem which was particularly, perhaps exclusively, associated with or deemed appropriate in connection with death.

Carination is still a popular form-based decorative device, seen most particularly on the type 36c jugs, the type 21d silver bowl (cat.no.322) and the unprovenanced type 21c



silver bowl (cat.no.379). The latter bowl also has what looks like the tips of two wings with incised feathers riveted to the rim. It has been suggested that they were originally part of a winged sun disk decoration (Kantor 1957:159).

Another form of decoration, which since the EBA in Anatolia was associated with one form of vessel, is the arcading that emanates from the base and covers most of the body of the type 15d bowl (cat.nos. 310 from Maşat Höyük, 327 from Kinik). The arcades are done in repoussé and the Maşat vessel also has a raised central boss in the base which is also seen on the earlier examples. This vessel is crushed and has large pieces missing. It was identified by the excavators as a decorated bronze sheet that was probably used to cover an object (Özgüç1982). However, despite its damaged state, it is still possible to see in the photograph the curvature of the vessel and a hint of the everted rim.

Repoussé arcading from the base to the shoulder is also seen on Kinik jugs (e.g.cat.no.318 type 36b jug), and the same technique is used on other examples of this type to form a row of horizontal ribs at the shoulder which accentuate the carination of the vessel. The latter form of decoration, consisting of ribs of different widths, also covers the entire body of the jar from Beycesultan. In terms of stylistic survivals, it is also worth noting here that the omphalos in the base of the two shallow bowls (type 16b cat.nos 331 from Kinik and 360 from Cape Gelidonya) is a feature associated more with the OATC period and also EBA Troy, with only one comparable example from the Aegean coming from TPP Mitropolis (Matthäus 1980 cat.no.419). In view of their rarity by this period in both regions, it is tempting to suggest that both of the Anatolian examples could be not only stylistic but physical survivors from a previous period. That older vessels were sufficiently valued so that they were kept over long periods of time is suggested by the repair seen on the Kinik necked bowl (type 20b cat.no. 323 ), which has a small circular patch attached by six rivets at the point of the carination. Additionally, this shape is one which could be termed a type fossil of the metal vessels of the EBA north central area, known particularly from the sites of Horoztepe and Alaca. Two final examples of decoration include the slanting rope design on the edges of the s-shaped strap handle on the Arslantepe jug (cat.no.305 type 36a) and the slightly raised edges of, and the incised cross pattern down the length of, the unprovenanced silver strap handle (cat.no.382, type 67e), which may have originally been part of a cup or a jug.



### 7.1.4 Construction Techniques

With the exception of the rhyta and the jug with cylindrical neck, most of the vessels are open and fairly simply shaped by the technique of raising by hammering. Additionally, the unprovenanced stag and bull rhyta were hammered from two pieces of silver, and exhibit extreme expertise in this skill. The only examples of casting are the tripod stand with bull protomes from the Kinik hoard (cat.no. 337), the latter having been attached most likely by soldering, the unusual-shaped handle fragment from Alişar, and the double reed handle (cat.no.376) and tripod stand fragments (cat.nos.373-375) from the Cape Gelidonya wreck. The rhyta from Kinik, and also perhaps the unprovenanced bronze dish, appear to have been sunk by hammering into a mould rather than raised, with features such as the horns and handles attached subsequently by rivets. Riveting was also used to attach handles (e.g. Kinik jug and rhyta handles). Some form of handle was attached by rivets also to the rim of the carinated bowl from Kinik (type 21d, cat.no.322), as evidenced by the pairs of holes on opposite sites at the rim. The horizontal handles with attachment plates (cat.nos. 364, 365) found on the Cape Gelidonya wreck were probably, based on their size, part of cauldrons. The rim fragment from Tarsus, which was probably part of a cauldron also (cat.no.298), has the remains of a rivet near to the thickened edge of the rim. However, due to the fact that only small fragments of cauldrons exist in the HE corpus, it is impossible to tell whether they were pieced together from several plates as in an OATC example (cat.no.283) and in the SPP and contemporary Aegean examples, or were raised in one piece. Decorative techniques include, as noted in the previous section, repoussé, gilding (on the unprovenanced stag rhyton), and also silver plating on the unprovenanced bronze dish (cat.no.380).

It is also possible to perceive something of a continuation in one technique from a previous period. This is the basket handle on the bucket from Kinik (cat.no.311, type 48a), which was passed through holes near the rim and then folded back on itself to form a loop. This is a much simpler version of that seen on EBA and OATC period vessels, which had the same hook ends to the basket handle, but which were most often attached by means of split pins through a double lug attachment plate on the body of the vessel. The method of handle attachment on this vessel is much cruder than that seen on the earlier examples, and also than on the LH I example from Shaft Grave V at Mycenae. As suggested in section 7.1.2, this class of vessel with its very specific form of handle attachment, may have by the LBA had a long association with ritual/cult. It is



therefore an interesting possibility that the aspect of this class of vessel that survived through the centuries was not a specific, canonical shape, but a type and technique of handle attachment which would have dictated how the vessel was held and manoeuvred.

Thus the overall picture of the techniques of the Hittite smiths of this period is one of mastery of a moderate range of skills, some basic and others highly accomplished, and a restriction of the shapes on which they were deployed. The latter is witnessed in the elaborate and skilled crafting of the Kinik vessels and some of the unprovenanced ones. Most of the techniques can be found in the corpora of surrounding areas and when compared to the techniques used in previous periods, it is possible to speak of a contraction in the range of techniques used, as well as in the regularity that the more complex ones were employed. Thus, unlike in the case of the EBA Anatolian corpus, it is not possible to identify a particular technological style in HE metal vessels.

#### **7.1.5 Depositional Contexts**

The spread of contexts in this period includes a hoard, various settlements and two shipwrecks, with no vessels coming from either palaces or officially excavated graves, although the unprovenanced bronze dish is, as noted above, believed to have come from a grave. The likelihood that the vessels in the Kinik hoard originally came from a Hittite temple has already been discussed, as has the nature of the trade suggested by the mixed cargos of the two shipwrecks. Three of the vessels from Tarsus were from the area of the Hittite temple and may also have been used in ritual (Goldman 1956). Turning therefore to the domestic contexts, two points are apparent from the sparse information given in the various publications reporting the finds of these vessels. Firstly, several of them were found either in or nearby monumental structures. This is the case with type 15d bronze bowl with arcade decoration which was found in the monumental building on the citadel at Maşat (Özgüç 1982), and the jug from Arslantepe which was found in the burnt level of the monumental entrance (Puglisi 1964:43). Secondly, as in the case of the foregoing vessels, the bowls from Fraktin (Özgüç 1955), another from Maşat from the floor of a house on the citadel, and the jar from Beycesultan were all found in destruction layers and date towards the end of the period. As with the latter vessels, the sieve ladle from Boğazköy was found in a non-elite domestic context but there is no mention of a destruction layer in this case. These contexts therefore give hints that metal vessels were being used by people in authority in important Hittite secondary, possibly military, centres. From albeit a very small sample, these included the more



elaborate examples, although simpler bronze vessels were also available to some of the ordinary populace. On a larger scale, the metal vessels of this period come from a wider geographical spread, from Beycesultan towards the west to Arslantepe in the east, with the majority being found from the central plateau eastwards. This distribution fits with the spread eastwards of the Hittite Empire during the later LBA, as does their having been trapped in destruction layers in these places as the Hittites experienced political and military setbacks during the unsettled end of the LBA.

What is particularly surprising is the almost total lack of metal vessels from secure west Anatolian contexts, with the exception of the bowl from Troy VI. This is especially so given the Mycenaean presence at various west coast settlements, and in particular Miletus, and also the presence of Greek mainland-style vessels on Rhodes (see further below section 7.2.1). This perhaps links with Voutsaki's (2001) hypothesis that, during this period, the Mycenae elite tightly controlled the circulation of elite/prestige objects amongst settlements within the Argolid, a theory which might be extrapolated to encompass any Mycenaean colonies abroad.

#### **7.1.6 Intra- and Inter-regional Influences**

In contrast to the EBA in Anatolia, when entire metalworking traditions appear to have been rooted in, and interacted with, neighbouring areas, in the later LBA there are just a few vessels and fragments which possibly indicate interaction involving either influence or acquisition between Anatolia and neighbouring areas. Primary among these is Cyprus. Firstly, the open-mouth jugs from the Kinik hoard find a close comparison in a jug found in a chamber tomb at Hala Sultan Tekke (Fig.7.5), which is essentially the same shape, but without the carination and rounded base, and also has the same arcade decoration on the lower part and similar type of handle attached by rivets. There are also the tripod fragments from the Cape Gelidonya wreck (cat.nos. 373-375), examples of which have not been excavated from sites within Anatolia and which are no doubt Cypriot in origin, but which nevertheless indicate a foreign type of vessel which Anatolian coastal communities could easily have come into contact with, but do not seem to have adopted, perhaps because they did not fit with the existing style of cultic paraphernalia. The rest of the vessels on board this wreck are either too fragmentary, or else of such simple shapes (e.g. type 15a hemispherical bowls) with a wide geographic distribution, that it is not possible to say from where they might have originated.



A similar comment can be made regarding the unprovenanced silver bowl (cat.no.383) which, according to the dealer from whom it was acquired, was allegedly found near Izmir. The published report notes that it is very similar to one found at Tell Atchana level IV (Kantor 1957). It is a simple hemispherical bowl with an inverted rim, very similar to several other examples from the current and previous periods, and thus does not in itself provide evidence for trade or influence in this direction.

A further conundrum comprises the stepped, carinated bowl decorated with the remains of what appears to have been a winged sun disk (cat.no.379; Kantor 1957:159), the surviving broken decoration having the appearance of the tips of two wings with incised feathers riveted to the rim. Although no other similar example exists from Anatolia, the technique and the simplicity of line would not be out of place in the corpus. Due to the fragmentary nature of the decoration, it is not possible to determine definitively whether this is Egyptian, or else an egyptianising piece, referencing up the relative value scale by emulating the elite material of powerful Egypt. It is dated to the 13<sup>th</sup> century, that is a time of adverse relations between the Hittites and Egyptians, which was followed by peace after the battle of Kadesh, and so it could have been a diplomatic gift. On the whole these few pieces perhaps indicate more of a convergence in styles, tastes and motifs between the principal near eastern cultures towards the end of the LBA, a situation which would have been propagated by the increased cultural and political contacts between Anatolia, the Aegean and the near east, as well as by the independent form of tramper-trading around the eastern Mediterranean that is suggested by the mixed cargo of the Gelidonya shipwreck, although the Ulu Burun is generally regarded as a royal shipment.

### **7.2.1 Overview of the Aegean Corpus**

On Crete the amount of vessels in all types of metal dating to the TPP is closely comparable to that of the SPP (cf Table.6.1 with Table 7.2), the only difference being the absence of metal vessels which combine two or more metals, for example, silver with electrum. More noticeable is the difference in the amount found in the islands, with only two vessels, a type 15e skyphoid bowl and type 16d shallow bowl which are both bronze, being found in a single chamber tomb at Ialysos on Rhodes (Matthäus 1980:cat.nos. 441,443). This is perhaps not surprising given that Thera, where the majority of island Aegean metal vessels were found in the SPP, had been destroyed in the volcanic eruption towards the end of that period. The absence of metal vessels on



other islands is perhaps also a factor of the disintegration of the system of Minoan networks of colonies: as noted above, the only examples come from Rhodes, the vessels from where in the SPP were already displaying Mycenaean characteristics.

On the Greek mainland, a notable change is the great drop in the quantities of precious metal vessels, which demands some comments and qualification (cf. Tables 6.1 and Table 7.5). Most of those that are known date to the LH IIIA period, which is the time of the height of the palatial period here, when most of the large tholos tombs were built. The reduction in precious metal vessels in the early part of this period may be an illusory pattern, especially at Mycenae, where the royal tholoi are all robbed. That very few precious metal vessels date to the latter part of the TPP may however, as noted in Chapter 3, be a reflection of wider economic problems towards the end of the LBA, particularly if the possibility that some of these may be heirlooms from an earlier period is taken into consideration. On the other hand, although only one silver vessel has been found at Pylos, the Linear B tablets from this palace's archive (e.g. Tn 316) suggest that precious metal vessels were still being used, and perhaps also produced in the workshops associated with the palace and temples, later in the LBA (see Chapter 8). There is a similarity in the distribution pattern of precious metal vessels in this period as in the SPP, with the majority being found at Mycenae. Of the 25 gold and silver vessels from the mainland, nine come from Mycenae. However, whereas in the SPP, the gold and silver vessels from Dendra came from a number of tombs, in this period they almost entirely come just from the Kokla tholos (Fig.7.12), the single silver spoon from chamber tomb 10 at Dendra being dated to LH III by the excavators, although there is a possibility it could date slightly earlier. The pre-eminence of Mycenae as seen through this particular index is thus not as clear as in the preceding period, but is more visible when both the overall quantity and range of types (Figs.7.9, 7.11, 7.12, Table 7.5) is taken as a whole.

On both the Greek mainland and Crete silver and gold are used mainly for drinking vessels. The exceptions to this are the Dendra silver spoon (Cat.no. A.XXXIX), possibly the gold small shallow basin from Kokla (Cat.no. A.XXV), and the miniature gold tripod cauldron from the Idean Cave (Cat.no.A.XXXIII). Another development seen particularly on the mainland is the tin coating of clay vessels on the types of open shapes which may have been used for drinking, several of which have been found at Asine (see further Chapter 8).



Returning to contemporary Crete, this is the period when the range of bronze vessels reaches its widest extent, from a variety of drinking vessels and decorated small bowls through to larger and more functional types (Table 7.2). It is also now for the first time that we see a varied range of drinking shapes on Crete, made in both precious metals and bronze, although a notable exception is the type 8a Vapheio cup, with only one example, in silver, being found on the Greek mainland at Myrsinochorion (Table 7.6), and it is probable that this vessel was an heirloom. This shape also disappears from the pottery record after LB I. As noted in Chapter 3, it is thus at this late stage in the BA on Crete that we have the first firm evidence for the social, almost 'symposium' style use of ornate drinking vessels, combined with other vessels such as the lekanai (type 19a-d), large bowl (type 20c) and jugs (types 36e-42b) that may also have been used in the manipulation and presentation of liquids. Further indications of such types of social entertainment and sharing is depicted in the Campstool fresco from Knossos in which, as Wright has observed (1996), some of the vessels shown include both Mycenaean and Minoan types and further, he hypothesises, indicates the inclusion and education of Mycenaeans by Minoans in the etiquette of social drinking, probably of wine (1996:292).

The majority of the material on both Crete and the Greek mainland can be dated from both contexts and similarities to pottery forms to LM/LH III A-B. However, by the very end of the period there is little material, mainly only fragments, from disparate finds on Crete, and on the mainland, from hoards. The latter have been interpreted as casting/recycling caches, or else leftovers of craftsmens' hoards, found mainly on the Athens acropolis and from under the Great Poros wall at Mycenae (Matthäus 1980:343). Tools have also been found at Orchomenos, Kalydon and Anthedon, suggesting the spread of workshops producing vessels and other metal goods. However, the vessel remains from the latest part of the period, including numerous small pieces from Argos, and a few also from Dendra, Tiryns and other Argolid sites, are generally so fragmentary and unidentifiable in terms of types, that it is not really possible to say anything about them. It is difficult to identify a single reason for the sudden down-turn in metal vessel production at this time, although the wider climate of trade interruptions and economic recessions mentioned in Chapter 3 no doubt affected the supply of metals and the amount that could be allocated to non essential/function items. Alternatively, Matthäus has suggested that in addition to the fall of LM III Knossos, which would have reduced the demand for metal vessels produced not only locally but also those



from the Greek mainland, a drastic change in the death cult may partly also account for the sudden stop in metal vessels from mainland graves (ibid:344). Given the pre-eminence of Mycenae at this time, this may also have been due to sumptuary laws enforced by the elite of this site.

### 7.2.2 Form and Function

A glance at the tables detailing the types distributed throughout both Crete and the Greek mainland indicates something of a reversal in patterning from the previous period. Whereas in SPP Crete (Table 6.2) there was a medium breadth selection of forms found on Crete, with little exclusivity apparent in those types found at Knossos and those at most of the other principal sites on the island, Table 7.2 shows that in the TPP there was a much wider variety of types on Crete, but that most of the variety was to be found at Knossos, with many forms being found only there. This patterning is due to the sudden appearance and concentration at Knossos in this period of elite tombs in which the majority of the material from Crete was deposited.

Conversely on the Greek mainland, the variety and exclusivity in types found at Mycenae dating to the SPP (Table 6.5) is greatly reduced (Table 7.5) and furthermore, there are several drinking types (types 9c, 10b, 10c) which are only found at other sites in the Argolid. However, this patterning is no doubt a skewed picture of the ancient reality, as it was during this period that the great Atreus and Clytaemnestra tholoi were built at Mycenae. Their monumentality suggests that their contents would have been equally magnificent and that therefore, but for their being robbed in antiquity, the above patterning would no doubt be quite different. Further issues concerning the depositional contexts and the distribution of metal vessels between the mainland sites is discussed in section 7.2.5 below, but two points concerning the socio-political context of the Mycenaean period need to be noted here when considering the surviving metal vessel record from the Greek mainland.

The first concerns the nature of the principal means by which metal vessels traditionally entered the archaeological record in this area. Although LH IIIA saw a dramatic rise in the number of chamber tombs across the mainland, they are generally much more poorly appointed in terms of prestige grave goods. Simultaneously, and also during LH IIIB, ostentatious mortuary display, including the building of the monumental tholoi, gradually became restricted to the palatial centres (Mee & Cavanagh 1998; Voutsaki



2001:204). Given this apparent process of increasing control over elite sumptuary behaviour and the circulation of prestige goods, and the mainland taste for conspicuous consumption, available gold and silver vessels would have pooled in the highest status graves, which in the case of the tholoi, eventually became victims of their inherent visibility. Secondly that the middle part of the period, LH IIIB, was a time during which there was a focus on ambitious building projects in the Argolid in particular, including the rebuilding of the megara at Mycenae, Tiryns and Midea, expansion of fortifications, and the construction of roads, dams and bridges (Voutsaki 2001:205), all of which would have channelled wealth towards the palatial centres but would perhaps have made the acquisition of gold and silver for vessels less of a priority. The latter would certainly have been the case during the final period, LH IIIC, which is characterised more generally by recession, international turbulence and disturbance of the trade routes through which gold was acquired.

A feature that is common to the surviving gold and silver vessels of both Crete and the Greek mainland is, perhaps unsurprisingly, the comparatively higher value of these metals and their restricted supply towards the end of the LBA, and that they were used exclusively to make drinking shapes and small vessels such as the Dendra silver spoon and the small shallow basins, named 'tea cups' by Davis. In addition to fulfilling this function of display, social drinking vessels, the Linear B tablets also indicate that some of the gold and silver vessels were used in ceremonies including simple bowls or conical cups (213 vas), goblet (kylix?) with two handles (215 vas), and chalice (216 vas)<sup>27</sup> (see further Chapter 8). All of these are mentioned on tablet Py TN 316 which deals with items provided to a shrine for use in a ritual at Pylos. That metal vessels were used in religious ceremonies more widely perhaps finds further supported in the evidence of pictorial vase paintings of what is thought to be a funeral (e.g. Furumark 1941:fig.75; Kilian 1980: fig.2), which show a rhyton, ladle, krater/kylix, jug and chalice, and also depictions on ceramic larnakes (Kanta 1979:150, fig.63). Additionally, as noted above, the ultimate use for most of the TPP metal vessels was as grave goods, some perhaps having been possessions during the lifetimes of the deceased, others used in funeral feasts, but together such assemblages serving the purpose of advertising the kind of wealth and power that can afford the removal from circulation of so much metal bullion.

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<sup>27</sup> There are extant examples of these except the chalice shape.



In terms of parallels between vessels made of precious metals and those made of bronze, exact types that are common to both are limited to just two forms of drinking shape found on Crete, the only cross-overs being the type 6d kylix and the type 12i one-handled cup. However, there are further vessel shapes found in both bronze and silver/gold which, although not exactly the same type according to my scheme, are similar, for example the type 12j cup in bronze and the types 12h and 12i cup, the type 26b shallow basin in bronze and the type 26c smaller, cup-like form in gold (cf. Figs 7.9-7.11). This appears to have been because bronze was used primarily for more utilitarian items such as pans, cauldrons, lekanai, ladles and lamps and, on the Greek mainland exclusively, amphorae. Copper and bronze vessels also had a larger functional scope encompassing, in addition to drinking, storage (wet and dry), heating liquids, kitchen ware and special forms such as sieves, lamps and braziers (Matthäus 1980:344).

Continuations in the development of a few shapes are also seen in the earlier part of this period. For example, these include during LM IIIA the type 52a deep rounded tripod cauldron which is a more rounded development of the type 51a straight-sided cauldron that also has a rounded base; the type 4b short straight-sided cauldron from Zapha Papoura which develops from the type 4a through the addition of three short feet; the type 27b pan with a big handle that is now set almost vertically; and the type 28c two-handled pan which is very similar to the type 28b two-handled pan, but with straight sides and a flat base, an ideogram for which is found in the Pylos Linear B tablets (Matthäus 1980:340). There are also new decorative details on established shapes such as the knob-topped, wish-bone handles on hemispherical cups with/without omphaloi (type 12j; *ibid*:cat.nos.349, 350, 369). In fact, the wish-bone handle becomes a notable addition to two basic cup and bowl shapes, because it potentially changes or augments their functions. For example, the type 20c bowl with concave neck from the Pharai tholos (*ibid*:cat.no.354) has a long version of this handle type, thus making it into a form which could equally have been used as a dipper or as a presentation dish. A similar case applies to the type 15f bowl from the same tomb (*ibid*:cat.no.351). Similarly, spouts were added to cups, lekanai and bowls (type nos.14a, *ibid*:cat.nos.341-345, type nos.19c, 19d; *ibid*:cat.nos 391, 392, 403-407; type23a; *ibid*:cat.no.440), which would have extended the purposes they could have been used for, and/or negated the use of supplementary vessels such as ladles and jugs. Development and also perhaps a desire for differentiation from similar vessels on the part of their original owners, can be



detected in the later forms of straight-sided cups which have the handle placed wholly in the middle of the vessel side (type 9c), whereas in previous periods, where a handle occurred on this shape, it was either a fairly standardised strap handle or else a spool handle, both attached at the rim and lower down the body.

It is interesting to note that, despite the general lack of flourish and extravagance in the vessels of this period compared to those of the SPP, a few of the vessels from the mainland palaces and tombs have the appearance of being made either as experiments or as unique commissions, such as the bronze type 24a bowl with twisted rod handles from a chamber tomb at Pylos, and the type 23a bronze spouted bowl from Dendra (Matthäus 1980:cat.nos.446 and 440). There are also some new forms which appear on both Crete and the Greek mainland, sometimes represented only by a few examples such as the type 36e jug from a Dendra and Zapher Papoura, but more numerous including the various versions of lekanai, the later more developed ones having the knob-top (types 19c,19d) wish-bone handles, and the type 52a deep, rounded, tripod-cauldron. New to the Greek mainland is the lamp (types 66a, 66b) and the amphora (type 57a) which is not found on Crete. Conversely, on the mainland there is a general narrowing of the range of shapes, with less variety in jug forms, although this is not the case on Crete and, perhaps more importantly, following the variety of rhyta shapes at Mycenae, no metal rhyta have been found, nor have any krater types which would have been used for mixing liquids, perhaps alcohol. Thus on the whole the Mycenaean vessels of the early part of this period demonstrate a continuation in the gradual development of an Greek mainland style. Similarly, apart from the examples of vessel types found in both areas (some of which were probably imports into Crete as were the specifically Mycenaean kylix form found at Zapha Papoura and Chania), few indigenously Cretan forms show mainland influence, despite the latter's expansion in cultural and political spheres in Aegean and Crete specifically. Finally, as noted in section 7.2.1 above, many fewer, and then mainly only fragmentary bronze, vessels date to the latest phase of the period, indicating a general and quite sharp down-turn in the production of metal vessels (Matthäus 1980:340).

### 7.2.3 Decoration

In common with previous periods, it is the precious metal vessels that display the greatest concentrations of decorative motifs and also variety within these. Also similarly to the SPP on Crete, a liking for colour contrasts is still evident through either vessel



liners of a different metal to the rest of the body or, more particularly in this period, the use of different metal inlays, sometimes set in beds of niello for even greater contrast. However, certain bronze shapes from both Crete and the Greek mainland (type 26b shallow pan with large loop handle, type 28c shallow round pan with two handles, types 41a and 41b ewer and 42a and 42b footed ewers) are more regularly decorated in the TPP, perhaps indicating a desire to increase their display potential and suitability as prestige grave goods, in response perhaps, to a lesser availability of gold and silver vessels. Another pattern is that those from Crete come exclusively from the palace at Knossos, the nearby tombs of Zapha Papoura and Sellopoulo, and tholos A at Archanes, while the mainland examples come mainly from graves at Mycenae and Dendra, with others from graves at Nichoria, Tragana, Athens, Pylos and Pharai as well as the Tiryns treasure. The latter area thus shows a much wider distribution of decorated bronze vessels, although the majority of decorated gold and silver vessels have been found at Mycenae. However, the amount of decorated bronze vessels from all Aegean TPP contexts is quite small (eight from Crete, 20 from the mainland), with some of the most ornate examples coming from Knossos and Archanes.

The pans generally have either spirals, foliate pattern, slanting loops or diagonal ribs on the rim and/or handle as well as raised rolled edges on the handle (e.g. Matthäus 1980:cat.nos.151, 153-155, 312). Decoration on the ewers focuses on the shoulder area and takes the forms of bands of foliate patterns, bulls heads, horizontal lines overlaid with alternating teardrop shapes, and slanting s-shapes, and shells, occasionally occurring with raised central ribs on the handles also, and sometimes combined with added torus mouldings around the neck and/or foot (e.g. *ibid*:cat.nos.242, 252, 282-289, 291, 292). There are also five bronze cups and a bowl (types 9c, 12J and 15f *ibid*:cat.nos.350, 350a, 351) from the mainland which are decorated, the type 9c with incised parallel lines and the other two types with spirals and arcades. It is difficult to say definitively where these vessels originated, but the motifs and forms perhaps have their closest parallels in Minoan material culture.

A different approach to bronze vessel decoration can be detected in examples which almost certainly were of mainland origin. Whereas in the aforementioned cases, the decoration was incised or moulded in relief, following the lines of the vessel shape, in the following cases the decoration takes the form of plastic additions of two kinds. Firstly, there are the conical knob-topped wish-bone shaped handles found almost



exclusively on types 19b,19d lekanai (for their total distribution see Figs 7.6, 7.9, 7.10). It is perhaps noteworthy that on Crete, in addition to five examples from widely spread sites, five more come from the graves at Sellopoulo, Archanes and Zapha Papoura, from where many of the other decorated bronze vessels mentioned above came. Additionally, a unique vessel, the type 29a concave sided pan, which has knob-topped horizontal handle (*ibid*: cat.no.164), also came from Zapha Papoura. There are also two type 19c decorated lekanai, only from Dendra, which have moulded spirals and foliate designs on the rim, handle and spout shifts and that Matthäus dates earlier, suggesting that those with the knob-topped wish-bone handle are later developments (*ibid*:264).

Secondly, there seems to have been a taste for animal heads on the handles/rim on mainland type vessels. Examples include four gold goblets, each with handles topped by a dog's head biting the rim, from the Acropolis treasure at Mycenae (Davis 1977 cat. nos.123-126), a type 9c straight-sided cup from the Tiryns treasure which has a duck model riveted to the rim on the side above the handle (Matthäus 1980: cat.no.360), a type 42b ewer from Sellopoulo (which is of a kind closely related to others found only on the mainland), that has some kind of animal's head attached to the rim opposite the handle (*ibid*: cat.no.296), and a pair of wishbone handles, probably from a lekanai, found in tholos A at Moulana (*ibid*: cat.no.412/412a) topped by a bull's head instead of the usual knob.

The gold and silver vessels are almost all decorated and this occurs in one or a combination of three principal ways. Firstly, geometric or naturalistic motifs done in repoussé, incision or else by casting, such as the large running spirals and short arcades on the gold cup from Agios Ioannis (Davis 1977:cat.no.19) which also has concentric rings around a raised central boss in the base; the silver footed cup/goblet (*ibid*: cat.no.21) with incised lines on the rim and a central and diagonal ribs on the contoured copper rod of a handle; the silver goblet from the Isopata royal tomb (*ibid*: cat.no.23) which has incised lines parallel to the handle edges; the silver goblet (type 6d; *ibid*: cat.no. 135) with repoussé figure of eight shields interspersed with small circles, and the globular cup (type 13d; *ibid*: cat.no.128) which has a scale type pattern all over the body executed in the same manner; and the miniature silver shallow basin (type 26c; *ibid*: cat.no.129) with its cast rim decorated with whorl shells and cross ribbing.



Secondly, there are several examples of cold-hammered inlays in one or more types of metal that create a multi-colour effect. Perhaps the most elaborate example of this is the unprovenanced 'London' cup found on Crete<sup>28</sup> (type 8a; *ibid*: cat.no.24). This is a copper Vapheio cup with six silver bucrania with electrum horns, six gold inverted double axes, and gold and silver rosettes. There is also a big silver inlay rosette on the base, a motif found on the handle end of an ornate type 27a pan from Dendra (*ibid*:cat.no.184), on gaming boards from the West Temple Repository at Knossos (inlaid in crystal) and Shaft Grave IV at Mycenae, on a faience box from Tyliossos, and painted on the bottom of SPP ceramic cups from Knossos (Evans 1921-1935: pl.IIa, fig.100b). The close similarity of ornaments in metal, faience and rock crystal may be religious or royal reference, or due to cross craft influences and/or co-operation as perhaps all these materials were being worked in the same or nearby workshops (Davis 1977:120). Other examples of inlay include the type 12h silver cup from Mycenae chamber tomb 24 (*ibid*: cat. no.130) decorated with 21 gold and copper inlaid bearded male heads, all facing left, a motif found earlier on Minoan seals, and foliate bands in gold inlay on the handle, rim and body (*ibid*:300); a silver Vapheio handle (type 8a; *ibid*: cat.no.132) with gold and electrum rosettes inlaid into niello; and a darkened copper strap handle of an unidentified vessel from Mycenae (type 67e; *ibid*: cat.no.131) which is inlaid with eight gold Argonauts. In the latter two cases, the surface was purposely darkened to contrast more strongly with the metal inlays.

Finally, the third means, which seems also to have been designed to achieve colour contrast, was achieved by gilding, silver plating and the use of vessel liners of a metal different to that of the main body of the vessel. Included here are the silver footed cup/goblet (*ibid*: cat.no.21) which has a silver plated rim, gold plated rib on the handle and gilded copper rivets that attach the handle, and the 'London' cup mentioned above (*ibid*: cat.no.24) which shows traces of a separate inner lining folded over the rim, like the SPP gold cups from Vapheio. Gilding is also seen on the rim and handle of the miniature shallow basing mentioned above (*ibid*: cat.no.129). Davis has identified most of these vessels as being of Minoan manufacture which, combined with the fact that multi-metal inlay was now used to extend the ways that colour contrast in metal vessels was achieved, indicates that Minoan smiths continued to develop a distinctive and highly skilful decorative technological style into this late period.

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<sup>28</sup> Although Davis includes this vessel with others of the TPP (1977:118-123), the dating of it is problematic due to its lack of context and the fact that by this time the Vapheio cup shape in metal and ceramic is otherwise unknown. It is possible that it may have been an heirloom.



#### 7.2.4 Construction Techniques

Although largely the same raising and construction techniques were used to make the vessels of this period as in the SPP, it is possible to detect a honing and refinement of them in this period, particularly in the earlier part of the TPP. In the case of bronze vessels, it seems that more care was taken on the finer ones with, for example, very small rivets being used to attach handles on two-handled pans and lekanai (types 28b, 28c, 19b, 19d) which did not affect the surface appearance too much. In two cases, type 42a ewers from Zapha Papoura and Palaikastro (Matthäus 1980:cat.nos.242, 212), a small scallop shell was placed at or near the handle termini, again as a masking device. Also on finer vessels, torus mouldings, ornamented flat bands around the shoulders and neck area, and stamp designs on rims, were used to hide joins (ibid:329). That smiths decided to take this trend one step further is perhaps indicated by the use of domed heads on rivets on Cretan vessels, used instead of flat ones to be more decorative on fancier vessels, and furthermore, on some of the type 26b shallow basins, some rivets are purely decorative with no attachment function (ibid:330;cat nos. 153-4, 392, 506-8). Turning to the more functional bronze vessels, technical development is seen here also. Whereas the quality of work on the SPP big kitchen ware vessels (e.g. cauldrons, hydria, kraters) was quite crude in many cases, often involving the riveting of several plates together (ibid:pls.1,2,22-28), a technique which may have reduced the watertightness of some of these, the large vessels of the early TPP, particularly the ewers, are more sophisticated in their construction, the bodies more often being made from one piece, and as seen in the previous section, sometimes more individual in design. Unlike in the case of the precious metal vessels, soldering was almost never used on bronze vessels, the only exceptions dating to the SPP (ibid:332; cat.nos. 304 and 306 from Shaft graves, 327 from Malia). There also appears to be far fewer instances of repairs to the bronze vessels than in the previous period, indicating either that there were better made, or else were used for a shorter period of time than their predecessors.

One technique which survives from earlier periods on both bronze and precious metal vessels, is that of making the handle by extending it in one piece from the rim of the vessel. This technique is used only two classes of vessel, cups (types 12g, 12h) and shallow basins with one large loop handle (type 26b). Examples include the bronze basins from Isopata, the North West Treasure House at Knossos, and Sellopoulo



(Matthäus 1980:cat.nos. 308, 309, 312), the silver cup from Archanes (ibid:cat.no.20), and the gold cups from Agios Ioannis, and Mycenae (Davis 1977:cat.nos 19, 130). In the case of the gold cup from Mycenae, the above mentioned design development of using a joining technique (rivets) as a decorative feature, is seen through the application of an ornamental handle plate on the outside attached with three silver rivets at rim, which serves no practical function at all. This seems almost to be a case of a metal vessel skeuomorphing features inherent to itself, almost as if its makers wanted to state the case very strongly through references to well known metal working techniques, that this was a metal vessel.

The precious metal vessels in particular add to our knowledge of finer Minoan metal working techniques. The footed cup/goblet from a grave near Knossos (ibid: cat.no.21) demonstrates the use of copper elements in the foot, handle and rim to solidify the vessel with heavier, more solid parts, and at the same time, to economise perhaps on the more precious metals. The use of nine small rivets with flat gilded heads to attached the rim of the miniature shallow basin from Mycenae (ibid: cat.no.129) may have been for purposes of rigidity also, but more likely was another version of using a readily identifiable metal working technique as a decorative feature. Finally, the examples of cold-hammered inlay discussed in section 7.2.3 above also show the great skill and adaptability of the smiths who could evidently manipulate different materials, including niello, and techniques in order to achieve a variety of decorative effects, over and above their expertise in being able to create a variety of forms, with variations, as well.

### **7.2.5 Depositional Contexts**

The vast majority of the Cretan vessels come from grave contexts, with a very small amount from settlement contexts, including those found within the palace of Knossos, at Agia Triada, Rethymnon, and the small sites noted in Table 7.2. This is the period when the vessels were deposited in the graves at Archanes which, given its relative proximity to Knossos, and the various ostentatious graves near to the palace, suggests a certain degree of competition, or perhaps emulation, existing between the elites of the two centres, this being played out through the mortuary arena. Furthermore, gold and silver vessels on Crete which, with the exception of the miniature gold tripod cauldron from the Idean Cave, take the form of goblets and cups, are restricted to grave contexts around Knossos, and also one from an Archanes grave. Another pattern is that while the tombs of Zapha Papoura and Sellopoulo have produced a wealth of bronze vessels (19



and 27 respectively) no precious metal vessels have been found in either of these, whereas in the Isopata Royal Tomb, only one bronze but two silver vessels, a type 6c goblet and a type 6d footed cup were found.

A comparison of the types found in the Knossos graves and those from Archanes highlights two further points. Firstly that those buried in the Sellopoulo and Zapha Papoura tombs had access to a far wider range of vessels, with fourteen and fifteen types respectively being found in these tombs, with only eight types coming from Tholos A at Archanes, the richest and most variedly-furnished of the graves here. The social situation therefore, was probably more one of competition between the elites at Knossos, with those at Archanes seeking to participate in the social jostling through emulation. Secondly, there appear to have been sets of metal vessels which were deemed an appropriate combination of elite grave goods, and which included a combination of different types of cauldron, ewers, basins, pans, lekanai, bowls, drinking vessels and a lamp (Table 7.7). Together these have the appearance of a feasting service set, a combination which can also be seen in contemporary Greek mainland graves at Dendra and Mycenae, and to a lesser degree at other sites (Table 7.4). In the mainland tombs there are often also nearly identical ceramic sets, and in the case of those from the Athenian Agora and Asine, they were occasionally covered in tin (Wright 1996:300; see also further Chapter 8). Matthäus has also suggested that the role of the Knossos workshops and smiths was that of principal crafters and suppliers for the much of the island. This is based on the amount of vessels in the tombs near Knossos, and also the similarity between them and the material found in Tholos A at Archanes, as well as other indicators such as the straight-walled cauldrons from Chania which he believes may also have come from Knossos (Matthäus 1980:342). This scenario also fits with the picture presented by the Linear B tablets of Knossos-based control of this important industry. However, he also observes from distribution patterns of vessels and tools on the mainland, that production of metal vessels was more widespread.

Finally, as mentioned in section 7.2.1, there is a far greater degree of exclusivity in the types of vessels found at Knossos and the surrounding tombs than anywhere else on the island, and these mainly encompass a variety of drinking shapes, the type 26b shallow basin, which has previously occurred in ornate form and in elite/ritual contexts, and various forms of jug and ewer. Although the use of metal vessels as grave goods is not totally restricted to the Knossos area, the overwhelming majority do occur in the above



mentioned tombs, and those from tombs at places such as Chania and Rethymnon, and in east Crete, post-date the LM IIIA destruction of the palace at Knossos.

Despite the fact that Mycenae does not have the same quantity of surviving precious metal vessels during this period as in the previous one, it still exhibits greater variety in shapes made in gold and silver than its nearest rival Dendra (seven types versus three, see Fig.7.6), and is the only place where a vessel made from a combination of metals is found. However the latter points, combined with the fact that the greatest quantity of one particularly type of lekanai (type 19a) comes from Mycenae, highlight the only manner in which the collection of metal vessels from this site is superior to those from the other principal nearby sites. For example, during this period only 27 bronze vessels have been recovered from here while some 33 have been found at Dendra. Furthermore, the latter site has many of the types that occur at Mycenae and also some others which do not. A similar picture, albeit involving quantities and some different types, is seen at the other Argolid sites of Asine, Argos and Tiryns. What is also apparent, is that the circulation of metal drinking vessel shapes does not seem to have been restricted to Mycenae, or even the Argolid (see figs.7.11, 7.12), which somewhat goes against Voutsaki's conclusions regarding the sumptuary pre-eminence of Mycenae during this period (2001:204). However, it should be remembered that the metal vessels are only one prestige class of object which can act as an index of social dynamics and that as noted in section 7.2.2 above, there may well have been a far greater quantity of metal vessels originally in the Atreus and Clytemnestra tholoi. The metal vessels distribution patterns would also not preclude the conclusion that there was a system of elite gift exchange in operation between the various elites of the principal Argolid sites at this time, although it also does not particularly contribute to it either. Nevertheless, the vessels from the mainland tombs, as well as the few from other contexts, do mirror the pattern seen on contemporary Crete, that in addition to domestic, functional cooking and storage vessels, metal vessels were used for feasting purposes, ultimately appearing as service sets in the tombs.

### **7.2.6 Intra-and Inter-regional Influences**

There are no new techniques or designs in the TPP Aegean corpus which suggest contemporary influence from external sources. Those aspects of form, such as cups with a raised central boss and concentric rings, and technique, as in the examples of handles extended in one piece from the rim, were features of some antiquity in Anatolia, and



previously known in the Aegean, so that these should be seen as survivors which the Aegean smiths chose to continue using, rather than new external inspiration. The only decorative feature which does not previously appear in the Aegean is the application of animal protomes on vessels, such as the gold goblets with two dog's heads on the handles from the Acropolis Treasure at Mycenae. Davis feels that specific inspiration for these may have come from central Anatolia, as ceramic vessels with animal heads that bit the rims are known from OATC Kültepe (Davis 1977:294)

### 7.3 Summary

The specialised drinking shapes, seen mainly in the EBA, and to a lesser degree in the OATC, are almost totally absent in either of the Hittite periods. Portrayals of people drinking in Hittite iconography show bowls rather than cups, goblets and other unambiguous and elaborated drinking shapes (see further Chapter 8). The metal vessels record, although fragmentary and ostensibly disparate, probably is thus a fair reflection of the range of shapes in use in social settings in the Hittite period. Apart from the more domestic-oriented vessels (cauldron, sieve), the majority of the remainder, which come from the Kinik hoard and unprovenanced sources, indicate an orientation in the use of metal vessels in HE Anatolia for cultic purposes. A further divide is seen in the use of bronze for more functional vessels and silver for cult vessels. Perhaps therefore cult/ritual was the main arena for display of authority and power. In view of the fact that the latter was focussed exclusively on, and controlled by, the king, this suggests that by the late LBA opportunities for social competition through the manipulation of elite material culture was extremely restricted if they existed at all. It would also follow that access to precious metals was similarly restricted, which fits with the pattern of co-variation of metal type and find context seen.

The decorated Anatolian vessels show a distinctive Hittite decorative style in the figurative work, and also older, more generally Anatolian features such as the swastika. Aside from these, however, it does not seem possible to identify a distinctively Anatolian decorative or technological style, as the vessels on the whole appear to be more part of a wider homogeneous style of vessels seen across the near east by this period. The Aegean corpus, on the other hand, exhibits a distinct style in both decoration and the comparatively extensive and varied range of vessel types, as well as the considerable variation within these. Having said this, and despite some indications



of continued formal and decorative development, the corpus is by the early TPP well established.

The concentration of large quantities of specialised and elaborated drinking, pouring and serving equipment, which appear as sets in elite grave contexts during this period (e.g. the LH III graves, the Cretan palaces and tombs), fits interestingly with Dietler's theory (discussed in Chapter 2) of the role of alcohol and competitive drinking and feasting in the development of socio-political complexity, and the maintenance of power and social distance. A similar trajectory, apparent in Anatolia in the mid to late third millennium, is difficult to plot there in the second millennium solely through the metal vessels, although during the OATC there are indications that these objects were being used in a similar way by the new 'middle' class of wealthy merchants. The following chapter considers how an aspect of the ceramic record, skeuomorphs of metal vessels, can supplement the patterns from the metal vessel record and thus our knowledge of BA social dynamics.



## Chapter 8

### Reflections of Metal in Clay - Skeuomorphism through the Bronze Age

In Chapter 2 I discussed both the potential of the study of skeuomorphism for opening windows onto the social dynamics of ancient societies and my approach to it, highlighting how positivism, and the related preoccupation with identifying definitive origins and prototypes, tends to hinder a full exploration of this phenomenon. Rather than seeking the earliest origin of skeuomorphism in the Aegean and Anatolia in general, in this Chapter I examine the later introduction of the idea of representing specifically metal in clay, and how this is manifested diachronically through the BA of these regions. In this way I approach the advent of metal skeuomorphs in clay as an innovation both in technical and stylistic terms, and consider what the choices made, and those not made, in the creation of these skeuomorphs can tell us about the prehistoric societies that produced and used them. Additionally, by reviewing the changing ways in which metal was expressed in clay, it is possible to plot the changing dialogue between the two media and what this can tell us about how metal articulated social relations. Finally, skeuomorphs should be able to indicate some of the gaps in the surviving metal vessel corpus.

From my study of the skeuomorphs of both regions, I propose that metal began to be an inspiration for potters as early as the EB II period. Renfrew and Charles (1967) and Branigan (1974) have noted the close parallels between certain EBA Aegean metal and ceramic vessels and the role of metallurgy in influencing these forms (Branigan 1974:136ff, fig.13; Renfrew & Charles 1971:pl.10), although others have subsequently disagreed with this view. For example, with reference to the Aegean, Davis states quite categorically that: "Pre-palatial pottery does not imitate metal forms." (1977:86). Similarly Dickinson (1994:130) further believes that at this early stage ceramics were the prototypes for metal vessels, which in the case of the simplest, rounded shapes, may well have been the case. However, the prevailing misapprehension that metal was not at this time exerting an influence on clay is due to several factors including an overly-limited concept of what skeuomorphism is, which in addition is restricted by its reliance on detecting features that to our modern eyes are rather obvious. Rather I suggest that there is a need to examine the vessels for themselves, to consider them on their own terms in their particular socio-cultural context, in order to perceive what the potters



were trying to achieve. Thus, for a study of skeuomorphism to be successful, it needs to approach the ceramic corpus with a broad perception of the variety of ways in which metal can be referenced in clay, and not be confined to detecting mirror images of metal vessels. By accepting that often we may find reflections rather than copies of metal, it is possible to understand the choices made by potters when they translated what they saw into clay.

A detailed study of the different manifestations of metal skeuomorphs during the BA of these regions would be the subject of a separate thesis. Ideally, it would be based on a statistical, stylistic and technical analysis of the ceramic data from numerous sites in both Anatolia and the Aegean. Time and permit restrictions necessarily dictated that it was unfortunately impossible for me to conduct such a study alongside that of the metal vessels of both regions. This chapter therefore represents an overview, albeit a fairly comprehensive one, of the incidence and changing nature of this phenomenon. However, I was fortunate to be allowed to study the ceramic assemblage from the excavations at Kastri on Kythera, the results of which are incorporated into sections 8.1-8.4 below. My findings from this material do not necessarily exactly mirror contemporary patterns of skeuomorphism Aegean-wide, but they serve to illustrate two important points regarding this aspect of the material culture. Firstly that metal skeuomorphs were part of a network of strategies designed to answer the needs of emerging and developing social imperatives. Secondly, that the ways in which metal was viewed and expressed in the Aegean exhibit a certain regionalism, particularly in the EBA, and that this was due to a variety, and no doubt often a combination of, reasons ranging from differing availabilities of types of metal to area-specific aesthetics and fashions.

A note should also be made here regarding the nature and quality of the information available on the ceramics of both regions. For the Aegean there are two useful standard syntheses, Betancourt's work on Minoan pottery (1985) and Mountjoy for the Mycenaean material (1993). In addition to these there are several pertinent petrographic and socio-cultural studies on which I have drawn (Whitelaw et al. 1997; Wilson and Day 1994), and I was kindly allowed to study a wide sample of the ceramics from several excavations at Knossos, which are held in the Stratigraphic Museum. However, for Anatolia I have been unable to find any comparable syntheses and studies and, as I was unable to gain permission to study the ceramics from the recent excavations at Troy, I



have had to rely on the excavation reports from the key sites for each period, combined with visits to numerous museums in Turkey where I viewed the ceramics in the display cases.

I have structured this chapter mainly along chronological lines, with the first four sections each dealing with the contemporary evidence from both Anatolia and the Aegean alongside each other for the purpose of immediate comparison. This is followed by a section regarding textual and pictorial evidence for metal vessels that has the aims of filling gaps in the metal vessel record and also elucidating further, where possible, their use contexts and social meanings. Finally, a brief summary considers the main trends in the evidence presented, and the information regarding social dynamics that this suggests.

### 8.1.1 The Start of Something Big (EBA)

Schachermeyr noted an episode of *metallschock* during the Anatolian Chalcolithic when there started to appear ceramics with thin walls, sharply carinated profiles and polished monochrome surfaces that echoed metal prototypes (1955:154). Next, in EB II Anatolia there appears a suite of ceramic vessels of Troadic/west coast origin but with a much wider distribution, distinguished by either a black or red/brown shiny slip in the form of the depas, tankard, bell-shaped cup, beak-spouted jug and wheel-made plate. The metallic origins of these can be little doubted as metal versions of most of these have been found in the Troy 'treasures', and there are also unprovenanced examples from the Troad, all of which are included in the catalogue in Appendix 2. Derivatives of these, known as the Lefkandi I/Kastri group appear from the eastern Aegean islands through the Cyclades to the east coast of the Greek mainland during the later EB II.

Recently, Nakou has proposed that the Anatolian-derived *metallschock* of the Lefkandi I/Kastri group promoted a subsequent local *metallshock* on the Greek mainland, an area peripheral to its original epicentre, which is witnessed through the EH III Fine Grey Burnished and Solidly Painted and Burnished classes of pottery (1999:307). As she rightly points out, the latter manifestation of this phenomenon does not reflect the construction technique details of the original Anatolian metal prototypes, observable also in their skeuomorphs, due to a process of translation seen in the Lefkandi I/Kastri group, and then a Greek mainland simplification of vessel-building techniques derived from the local metalworking tradition, and which were in line with the techniques



utilised previously in the EH II gold sauceboats (ibid:306). Her study thus further clarifies the vehicle and mechanism of contact and influence between these parts of the Aegean and western Anatolia, and provides supporting evidence for my related theories, expressed in chapters 4 and 6 above, regarding the Benaki bowls and the predominantly Trojan influence on later Greek mainland metal vessel shapes.

However, what continues to go unremarked in the literature more generally, aside from the occasional anecdotal observation, is the impact that metal vessels evidently made on Minoan ceramics, starting in the slightly earlier EM IIa period with Fine Grey ware, and continuing through EM IIb in the form of Vasiliki ware. There is also a case to be made for two other wares that have their principal distribution on the southern Greek mainland and in the Cyclades being skeuomorphic: Urfinis ware of the EH II Korakou culture, and contemporary Yellow-Mottled ware. Substantiation for these attributions is presented further below.

Without pre-empting the following discussion, the common themes amongst all of the metal skeuomorphs from both regions is that, based on the time and skill evidently required in their creation, they were fine wares produced for a prestige market. Additionally, they were produced almost exclusively in shapes related to the manipulation and consumption of liquids, and did not fill gaps in the local coarse-ware repertoires so much as provide vessels for very specific purposes. It also becomes clear that it was in this period, rather than later as proposed by other studies (Davis 1977:86), that metal vessels provoked the start of a cross-media relationship that was to be both long-ranging and socially significant. The discussion in this and the following three sections is ordered thematically (surface treatments, shape, technological details, social context) in order to be able to compare directly the different methods used to evoke, and strategies deployed by potters in the creation of metal in clay.

### **8.1.2 Surface Treatments**

A common characteristic of the way that Aegean potters approached the challenge of evoking metal in clay in the EBA (and also the subsequent FPP), was through the development of wares that were skeuomorphic through manipulation of the surface appearance. My research has identified four EBA wares which I propose were intended to evoke different metals. Those produced on Crete comprise Fine Grey ware, which I suggest drew its inspiration from silver, and Vasiliki ware which I believe was based



on copper/bronze prototypes. The others are Urfinis ware of the EH II Korakou culture which I believe skeuomorphed silver, and Yellow Mottled ware which was intended to evoke gold. Given my comments in the introduction to this chapter regarding how we identify metal in clay, and in view of the somewhat subtle nature of skeuomorphism in this period, each of these demand some explanation in the form of descriptions of their overall appearances, in order to substantiate these attributions.

As its name suggests, Fine Grey ware has a uniform medium or dark grey colour from the core to the surface, with polished or else burnished surfaces giving them a high sheen, all of which indicates both high technical competence in the careful control of the firing atmosphere as well as considerable time investment. Unlike on other contemporary local wares, the surface effect was applied to both the exterior and interior of the open vessels (e.g. the goblets) which meant that all visible surfaces displayed the same deep grey sheen. I propose, therefore, that this ware was the deliberate result of skilled manipulation of the forming, firing and finishing process, with the intention of evoking the appearance of tarnished silver. That the most common appearance of silver in antiquity was dark grey to black due to a patina formed through oxidation has previously been proposed by Vickers and Gill, who observe that this can be caused by everyday handling, sulphuric fumigation, bad water and sea air (1996:123-129). If Crete obtained silver vessels from overseas, perhaps via the Cyclades, they would already have been at least partially oxidised by the time of their arrival, and therefore a lustrous grey may well have been the appearance equated with silver by Cretan potters. With their all-over colouring, these goblets would therefore have evinced a particularly convincing approximation of solid, tarnished silver. A similar equation can also be proposed for the black highly burnished ceramics found at sites throughout western and central Anatolia which, in combination with the shapes they were produced in and their thin walls, reflect a considerable metallic influence (see section 8.1.3 below).

Similarly Urfinis ware, which has a wide distribution in both mainland and Cycladic EB II contexts, is most often characterised by a black painted slip with a lustrous, iridescent sheen and crackled surface (fig.8.1), which is applied to both the exterior and interior of open shapes. It also occurs in a reddish-brown finish which might also indicate the skeuomorphing of another type of metal. Other formal and technical aspects of this ware further enhance its metallic appearance (of which see further below), which has



previously been noted (Lacey 1967:145), although the specific metal which it was referencing has not previously been proposed. Following the line of reasoning outlined for Fine Grey ware, I suggest that the glossy black finish of this ware was the mainland (and perhaps also Cycladic) potters' interpretation of tarnished silver. That the intensity of the colour used to represent the tarnish was greater here than in Crete should perhaps be seen as a regional difference in aesthetic tastes, although the possibility that the potters were accentuating what they saw as the essence of silver should also be considered. As with Fine Grey ware, Urfinis comes out of an earlier tradition not associated with metal, but on the basis of the combination seen on these vessels of metallic shapes and a metallic finish which was applied to both the interior and the exterior, I propose that the intention of these potters was to evoke a type of metal as they saw it.

A similar correlation between metallic surface appearance and other characteristics including shape and wall thinness is observed in the case of Yellow Mottled ware (Fig.8.2), which Blegen believed was meant to replicate a metallic sheen (1928:60). In this case a yellow slip was applied, burnished and fired in such a way as to produce a subtle mottling effect of hues of yellow and pale blue. I propose that this was intended to evoke the appearance of gold which, although it does not tarnish, can vary in its yellow colour and, according to the way the light falls upon it, can appear to have faintly darker areas, hence the pale blue 'shadows'. The same attribution has been suggested by Pullen (1985:256-7,271-2), and support for this correlation is provided by the fact that the most common shape in this otherwise fairly rare 'speciality' ware, is the sauceboat, gold examples of which have only been found in the Greek mainland. From Anatolia I have been able to find only one vessel which may have been intended to evoke gold. This is a single *depas* from Beycesultan dating to late EB III which has a high pale sheen with large red chevrons painted all over it and thin walls (Fig.8.3). It is termed 'gold'ware by the excavators (Lloyd & Mellaart 1962:233), but unfortunately no further information is given. The only other way in which organic or pottery vessels may have been 'dressed-up' or had their value enhanced without being directly skeuomorphic, is seen in the several instances of gold and bronze open-work casings for boxes and small bowls found at Alaca (Fig.8.4)

Named after its type site in eastern Crete, Vasiliki ware is a very distinctive pottery characterised by a mottled decoration in hues of red, brown and black and is burnished



producing a variegated and often lustrous appearance (Fig.8.5). The mottling occurs in a broad range of patterns and there are many theories regarding how it was achieved (Betancourt et al.1979:14-16). Irrespective of which of these is correct, or if this effect was originally an experiment or accident, it is evident that it was deliberately replicated subsequently for two reasons: a complex procedure of varying the atmosphere in the kiln was involved to achieve the red (oxidised) and black (reduced) colours, and a fairly narrow temperature range would have had to have been skilfully maintained so that on the one hand it was high enough to achieve the black reduction, and yet not so high as to vitrify the burnish. The effect which I believe the Vasiliki potters were therefore deliberately trying to achieve was that of tarnished copper or bronze which, unlike tarnished silver, which has a uniform patina, acquires a variegated appearance of red to black. This interpretation has previously been voiced by Evans (1921-35 I:193), Hood (1978:31) and Branigan who commented that Vasiliki was probably metallurgy's biggest impact on Minoan ceramics (1974:137). The red/brown burnished ceramics of western Anatolia, as well as the derivative Aegean Lefkandi I/Kastri group, may similarly have been intended to evoke copper alloys, especially given the metallic shapes they were produced in (see further below).

In addition to these ware-based skeuomorphs, one vessel from the Cyclades skeuomorphed the surface appearance of silver in a very different way. This is a pottery juglet from Spedhos Grave 14 (Papathanasopoulos 1961/2:pls.C, 49c-d) which represents a rather more direct attempt at giving a cheaper material the appearance of solid silver, and although this practice seems to have been confined to this area in the EBA, it suggests that this ceramic vessel shape was appropriate to metal vessels. Reflections of metal vessels are also seen in the twisted handles and fictile rivets occasionally found on pottery from here.

In summary, therefore, it would seem that potters in Crete, west Anatolian and throughout the central Aegean islands and east coast of the Greek mainland were attempting to replicate one of the most immediate visual aspects of both copper/bronze and silver vessels through the manipulation of surface effects. Apart from the one vessel from Beycesultan, it appears that only on the Greek mainland, which is the one place in the EBA Aegean where gold vessels have been found, were they experimenting with the alchemist's dream of creating 'gold' from baser materials.



### 8.1.3 Shape and Function

All four of the Aegean wares discussed above were produced in a narrow range of shapes, mainly encompassing goblets, cups, bowls, display-type jars and jugs, with no storage or cooking shapes being evidenced. Additionally, small pyxides, most of which were found in tombs and are believed to have contained a low-volume, high value substance such as unguent or perfumed oil (Betancourt 1985:40), were produced in Fine Grey ware, and primarily sauceboats in Urfinis and Yellow Mottled wares. These shapes are thus almost all connected with the manipulation and consumption of liquids. Their size is also commensurate with contemporary Aegean metal vessels and thus the metallic effects would have been credible on them.

The widest range of shapes was produced in Vasiliki ware, a representative sample of which is shown in Fig.8.6. The spout on the 'teapot' shape may have a metal prototype in the albeit shorter, but similarly-shaped spouts found in the Troad (Fig.8.7), which like the Vasiliki ones, also have a relatively small aperture through which the liquid would have flowed. Connected with this it is also worth noting among the Vasiliki shapes a form of bell-shaped cup and also a platter-like wide shallow bowl. While bronze is common in forms other than vessels in Crete, the production of which would have involved a certain metallurgical expertise, the brittleness and relative rigidity of bronze would have demanded considerably more skill and experience of techniques such as annealing in order to raise vessels in it. The latter, combined with evidence presented in Chapter 4 to suggest that contemporary Anatolian smiths were more technically advanced, and given the indications of early contacts between the two regions (Chapters 3-5) leads me to suggest that bronze vessels were probably not made in EBA Crete but were imported in small numbers from Anatolia. There may thus have been Anatolian inspiration for the bell-shaped cup, the teapot spouts and to a lesser degree, the platter/shallow bowl.

Some of the Fine Grey ware goblets have a convex swelling on the stem just below where it attaches to the bowl and, as Wilson and Day have noted, this may well have been "a deliberate imitation of goblets in metal..." (1994:6). Other metallic features found on the goblets in this ware include a sharply angled profile and, on an example from the Pyrgos Cave, horizontal ribbing-like decoration on the stem (Haggis 1997: pl.111b), a type and placing of decoration which is reminiscent of the stemmed goblets from EB II Alaca. Formal metallic features of the EM IIb wares include carinated



profiles, flaring and slightly everted rims, and arching, raised spouts. The latter, found commonly in several variations, may well have been designed to prevent or minimise dripping. Generally, the handles do not seem to be particularly metallic but their attachment to some drinking vessels and not to others suggest that these skeuomorphs were used for drinking different types of drink, one of them perhaps being hot. Furthermore, at both Ayia Irini and Myrtos the drinking vessels without handles tended to be made in the skeuomorphic wares, while those with a handle were less so or else in a standard ceramic ware (Whitelaw et al.1997; Wilson 1999).

Of the west Anatolian black and red/brown polished suite of shapes mentioned above, the metal shape most closely replicated in Anatolian ceramics from EB II is the *depas* (Renfrew 1972:pl.19.1-2), a rare variation of which appears with fluting on the body (Goldman 1956:162, fig.285, 722; Huot 1982:shape E4.1112). The ceramic bell-shaped cup no doubt also existed in precious metal form (Mellink 1963:106-112), handle-less and taller beaker examples being known in silver from Troy (cat.nos.22-24). Furthermore, the ceramic tubular handles of these two shapes closely evoke those known from Anatolian metal examples. The simple shape of the small bronze and silver shallow bowls with omphalos (types 16a, 16b) may well have developed from the common ceramic shallow hemispherical bowl, metallurgical influences appearing with the addition of a flattened and inverted, somewhat carinated rim and the omphalos itself, which from the EB II becomes closely associated with metal vessels (e.g. the pans from the Troad, eg. cat.nos.217,218, 220, as well as the tankard, and various bowl and cup types in this and the ensuing periods).

The unique gold two-spouted sauceboat from Troy, which does not have a precise parallel in any other media, is something of a hybrid in that it combines aspects of two different vessels types, the spout shape of the EH single-spouted version, and the vertical tubular handles of the *depas* cup. It also differs significantly from the two gold single-spouted sauceboats reportedly from the southern Greek mainland in that instead of two rivets with slightly rounded heads that were used to attach flat ribbon handles on the Greek examples, fusion was used to attach the tubular handles. Another difference is that the two Aegean examples do not have the midrib running under the length of the belly as the Troy one does (Fig.8.8). These points are significant with respect to the different media from which they may have been derived, potential external influences, and understanding subsequent influences they exerted on ceramic vessels.



Firstly, Betancourt (1985:39) and Hood (1978:35) suggest that the EH II sauceboat had its prototype in a customised gourd, which may well be true of the early pattern painted versions with a globular body and lower, less accentuated spouts. However, the changes which occur in its form during the later EH II, including a deeper, angular body and high arching, exaggerated spout, and which are also coated with lustrous Urfinis and Yellow Mottled surface effects, may reflect the later introduction of the extant gold versions in shape and sheen. Thus the Aegean version of the sauceboat may well have had its original inspiration rooted in a non-metallic shape, but its mature form, the result of developments informed by a metallurgical tradition, then exerted an influence back on ceramics.

Secondly, that the Trojan version developed both from and along different lines is suggested by two pieces of evidence. Ceramic fragments of the single-spouted version, found rarely in Troy I, are taken on stylistic and fabric grounds to be early EB II imports (Blegen 1950:54-55), and the ancestry of the spout type may have been connected to knowledge of these pots, but its multiple use was a Trojan innovation, this gold vessel perhaps being made to demonstrate the technical expertise of its creator, and represent a top level, unique display item for its intended owner. The body type shows signs of having been derived from another quarter. Roughly contemporary Mesopotamian vessels from Ur consist of the same oval bowls with longitudinal ribs running on the underside (Fig.8.9) and, as noted in Chapter 3, there is evidence for some form of trade or contact having existed between the two areas. The handle type is evidently taken from the *depas* which is first known in Troy IIc, suggesting that the unique two-spouted gold version was created towards the end of EB II. The Trojan sauceboat thus referenced other items that were exotic and/or elite prestige items. With these points in mind, it is perhaps not surprising that this vessel form is not found replicated in clay at Troy, as its exalted references and association may have meant that it was not seen outside of the palace at Troy, thus preventing a trickle-down effect amongst the local sub-elite. It is therefore interesting to note the ceramic three-spouted sauceboat from Syros (Fig.8.10) which in concept, if not exact form, echoes the Trojan one. It also has a skeuomorphic central mid-rib on the handle known better in clay and metal from later periods, which seamlessly joins the wall of the vessel, suggesting a soldered attachment like the Trojan one rather than a riveted one like the Greek mainland ones (Davis 1977:60, footnote 151).



Additionally, a variety of vessels from sites throughout Anatolia can be seen to have had metal as their inspiration, although in these cases the information available from excavation reports is somewhat disparate and lacking in statistical detail. Nor have the various wares been distinguished petrographically and so often it is not really possible to determine whether, for example, the ubiquitous shiny black-slipped ware is made at certain sites and imported at others. Therefore, the following is necessarily just a broad indication of the various ways metal vessels in this region influenced pottery at this time and, given the comparatively greater detail and clarity found in the Beycesultan publications, I draw mainly on the material from here. Other benefits of focussing on the ceramics from this site are that most of the skeuomorphic shapes seen elsewhere are found here, the assemblages contain a greater variety of skeuomorphs, and they come from both ritual and habitation contexts, which are lacking at the principal north central sites of Alaca and Horoztepe.

From the north central area, the local shapes skeuomorphed include mainly one-handled cups with short concave neck and everted rim (Fig.8.11), which are very similar to metal examples from the north central area, bowls almost identical to the silver Benaki bowls found in the Cyclades (Fig.8.12), small mugs, termed 'drinking jugs' by the excavators (Özgüç 1978:98) with strap handles, which are similar to the silver cup from Horoztepe (Fig.8.13), small bowls with concave neck, beak-spouted jugs with strap handles and goblets (Fig.8.14). The decoration on these often mirrors exactly that found on the metal vessels including torsional arcading, sets of concentric half circles and zig-zag decoration, although a pattern I have previously termed the abutting triangle, is not apparent. In addition, some short depa, characteristic of western and southern Anatolia have also been found in this area (Fig.8.15), indicating perhaps influence or the movement of items in the opposite direction, and a large ceramic one-handled pan has been found at Demircirhöyük (Fig.8.16). Apart from the handle type, which is a vertical ring with central raised ribs reminiscent of those found on SPP Minoan basins, it is very similar in concept to the bronze one found at Alaca (cat.no.56). Almost all of these are believed to have come from graves and are functionally connected with drinking and pouring liquids.

At Beycesultan the inter-craft relationship between metal and clay seems to have been very close, with many of the following closely matched by extant metal vessels from



other Anatolian sites (Lloyd & Mellaart 1962:117,136). From as early as EB I there are some bowls with sharply carinated profiles and jugs covered with relief arcades imitating repoussé technique (Fig.8.17), possibly suggesting a slightly earlier metallic impact on Anatolian ceramics. From EB II onwards there are additionally cups with one high looping handle, some with arcading decoration and others with concave necks (Fig.8.18. similar examples have been found at Ahlatlibel Zübeyr 1934:52-53), jugs with upturned and beak spouts similarly decorated (Fig.8.19) and some with small knobs on the body like those on the bronze jugs from Horoztepe (Fig.8.20), as well as various permutations of carinated and concave necked bowls (Fig.8.21), and basket-handled situlae which have volutes similar to the bronze ones from the Troad (Fig.8.22). Also within the shapes there is often some variation, for example, the kantharos occurs with a flat base, a small foot and also with a longer body (Fig.8.23), features which also occur on the depas (Fig.8.24). All of the above examples occur either in the black highly burnished ware or else in a shiny red to brown and occasionally mottled covering. Details of metal vessel construction techniques that are skeuomorphed are outlined in section 8.1.4 below.

There are also suggestions in the skeuomorphs of metal vessels that have not survived. For example, the horned pedestal bowls with horizontal ribbing round the pedestal and horizontal ribbed handles (Fig.8.25) can surely not have evolved from the pre-existing ceramic tradition, and would have to have been purposely moulded rather than flowing 'naturally' from the standard potting process. Nor have metal footed depa been found to date. Also the jars with cylindrical necks and everted rims decorated with relief arcading express a metallic aspect and features seen more regularly in later metal vessels (Fig.8.26). Following on from the last point, there is one class of skeuomorph, the EB I wide mouth jug with relief arcading decoration around the belly mentioned above which, unlikely though it seems given the time separation, prefigure somewhat metal vessels known only from a much later period (cf. the HE jugs from Kinik-Kastamonu). Together these seem to suggest reflections of metal vessels that have not survived and which functionally, would have made with the cups and jugs a full drinking service, with the pedestal bowls and jars perhaps being used to mix an alcoholic liquid.



### 8.1.4 Technological Details

The Aegean skeuomorphs are not notable for their reflections of metal vessel construction details. Imitation rivets are uncommon and when used, as in the case of a few handles from the settlement of Kastri on Kythera, they are often mislocated at points on the pot where they would not be functional, or else are accompanied by an enigmatic horizontal strip. There are also other slight indications of metallurgical techniques in the pottery from Kastri including strap handles with slightly raised, rolled edges, an early version of the laid-on type of handle, known particularly from the SPP, in the form of a tanged lower terminus, and one handle that has a spool type terminus which looks like an early version of the later 'Vapheio' spool handle (Coldstream & Huxley 1972.pl.19.44). However, punctuations commonly found on some carinated jugs from Crete, which Evans noted are reminiscent of studs or nail heads (1921-35:80; similarly Branigan 1974:137) appear to have been intended to imitate a metal vessel constructed by joining several metal plates by riveting (Fig.8.27). Their concave profile can perhaps be explained by the lack of close contact that the potters probably had with the metal prototype and, based on their probable familiarity with rivets used on weapons and tools, this may have been the only method of joining metal known to them. While the walls of Urfinis and Yellow Mottled wares are notably thin, in fact characterised as 'eggshell-like' by Blegen (1928:79), the walls of the Cretan skeuomorphic wares are not, and in fact those of Fine Grey ware are unusually thick which would not have added to their metallic aspect. However, skeuomorphs do not have to be slavish copies of their prototypes and this aspect of Fine Grey ware should not be a bar to their ascription as evocations of silver for two reasons. Firstly, the quantity of silver vessels in circulation is likely to have been insufficient for most people, apart from the elite, to have seen them at close quarters. Secondly, even if potters had seen them briefly or at a distance, it is the surface appearance rather than construction details that would have made the initial and strongest visual impact.

In contrast, the metallurgical construction techniques reflected in the Anatolian ceramic versions, and the Lefkandi I/Kastri group derivatives, clearly point to their metallic origin, and furthermore, distinguish them from the above Aegean skeuomorphs. Firstly there is the use of tubular handles that have a smooth attachment to the vessel body that suggests the Trojan predilection for fusion as opposed to the Helladic use of ceramic 'rivets'. Although these handles are not hollow as in the metal versions, their shape reflects their metal construction technique of rolling sheet into a cylinder. Secondly is



the use of one or a combination of the raised omphalos and the ring foot in the base of the tankards and shallow bowls (Wilson and Eliot 1984:78). The omphalos is a necessary structural feature which enable round-based vessels to stand up securely. The fidelity seen in the Anatolian ceramic versions to the shape and techniques used in the extant metal versions further suggests that this suite reflects a complete drinking service. Mellink proposes that such metal vessels actually travelled to the central and west Aegean where they acted as direct prototypes for ceramic skeuomorphs (1992:217), although I propose that the number of metal vessels involved was most likely very small.

At other Anatolian sites there are further reflections of both vessel construction and decorative techniques. For example, a large ceramic bowl from Demircihöyük resembles the technique of riveting several plates of sheet together (Fig.8.28). At Beycesultan there is a wide variety of technical features reflected including twisted handles (Fig.8.29), repoussé arcading (Fig.8.30), incision and collar bands around the neck bases (Fig.8.31), volute handle attachments (Fig.8.32), raised edges and central ribs on handles (Fig.8.33), the type of wide curved handle with several vertical ribs seen on the wide shallow pans from both Alaca and Horoztepe which reflects a casting technique in the metal prototype (Fig.8.34; cf.cat.nos.56, 77), small pellet-like rivets around rims (Fig.8.35), and small knobs on the body of vessels (Fig.8.36), probably intended as aids to gripping, which is also seen on some of the metal vessels from Horoztepe. What are not found are imitation rivets at handle termini which fits with the techniques used on Anatolian metal vessels. Thus the Beycesultan potters, and most likely their customers also, appear to have been very well informed about not just the general appearance of metal vessels, but the finer details also. Given the evidence for this site's contacts both with the Troad, north central Anatolia where there were plentiful metal sources and the Aegean, and the fact that it seems already in the mid EBA to have been a large and thriving town (Lloyd & Mellart 1962:131, 251, 255, 258), the metal skeuomorphs perhaps indicate that even though no metal vessel have survived, they were in circulation here at this time.

### 8.1.5 Social Context

The evocation of metal in clay during the EB II period in the Aegean occurred in the midst of a wider climate of experimentation and expansion in the material culture. As Renfrew noted, the way in which the world was symbolised and how this found



expression in material form in the Aegean, developed particularly rapidly and in many different directions during this period (1972:439). The potential held in the surface of ceramic vessels for aesthetic manipulation seems to have been realised already in the Neolithic period, when the appearance of basketry and possibly textiles was frequently applied to pottery through incised decoration in particular. Thus, by the late EB I/early EB II, the idea that clay could take on the appearance of various other materials would not have been novel but it is during this period that a wider exploration along these lines occurs.

It is likely that wood had long been used for making vessels, but it is during EM I that, perhaps due to its attractive grain and colours, it appears to become the inspiration for certain ceramics in the Cyclades (Doulas 1968:23) and in the form of Pyrgos Ware on Crete (Fig.8.37; Betancourt 1985:27). The availability of gourds in the region would also very likely have resulted in their being used as everyday containers, and these are perhaps reflected in EM I Agios Onouphrios ware with its rounded shape and base and cut-away spouts (Fig.8.38; Betancourt 1985:pl.2a&b; Hood 1971:30), the linear decoration perhaps inspired by nets used to suspend the vessels, as well as EH III Boeotian and Photian pottery (Hood 1978:33,244). Basketry also appears to have inspired the EBA potters, as suggested by the diagonally cross-hatched decoration on Koumasa ware of EM IIA (Fig.8.39), the incised decoration on some Grotta-Pelos pottery which is evocative of intertwined large, fan-shaped leaves or rushes (Renfrew 1972:pls.3, 5; see Fig.8.40), and EH III dark-on-light pottery from the Argolid, Corinthia and northern Arcadia, the design syntax of which clearly suggests twined wicker and the stitching of coiled basketry (Fig.8.41; Rutter 1986:81). Various forms of stone were another source of inspiration which is now widely-acknowledged (Bevan 2001:3-5-308; Warren 1969:171), as was the animal world including sea urchins for certain EC pots (Doulas 1977:16), the zoomorphic use of clay rivets as seen on Vasiliki ware jugs, for example, and bird-shaped askoi particularly from southern Crete (Betancourt 1985:49, fig.29). However, what is different about skeuomorphism in the Aegean EBA compared to the preceding periods is its general abundance, and in particular a shift in the material locus from organic to metal prototypes. It was the initial experimentation in evoking organic materials in clay that, I propose, laid the cognitive and technical foundations for the subsequent development of skeuomorphs of metal.



Turning to the specific social use and context of the metal skeuomorphs, there are several indications which link them with the contemporary Near Eastern horizon of novel elite consumption habits which included the social use of alcohol, as observed by Sherratt (1987a; also Sherratt & Taylor 1989). The spouts on the Vasiliki teapots mentioned above, which combined the small aperture and non-drip design lip, would have facilitated close control over the pouring of liquids. In fact this and the high-arching beak-spout, common to both Anatolian and Aegean skeuomorphs and which would have been similarly functional, are the two main forms of spout on both metal vessels and their skeuomorphs. The functional emphasis of these skeuomorphs is thus firmly on the prevention or minimisation of the loss of their contents, suggest that the latter was special or valuable in some way such as alcohol, and that thus there existed a connection between metal vessels, their ceramic skeuomorphs and a valuable liquid.

Other evidence for this connection can be seen by way of a case study in the distinct preference for goblets made in Fine Grey ware rather than in the contemporary Fine Painted at Knossos (Wilson & Day 1994:81). A similar situation pertained at Ayia Irini where it seems that the shape of choice for manipulating liquids was the sauceboat and that moreover, the overwhelming majority of these were of imported Urfinis ware (68.7%) followed by imported Yellow Mottled ware (18.2%; Wilson and Eliot 1999). Similarly, at Myrtos Fournou-Korifi it was observed that of the three wares found there, it was Vasiliki that was principally imported from the north of the island to fill the need for specialised drinking equipment in the form of goblets (Whitelaw et al. 1997:269). It is interesting to note that prior to the cessation of its production, the goblets and chalices in use at Myrtos were of Fine Grey ware (Whitelaw et al. 1997:272), which indicates a continuing desire for special purpose metallic-looking vessels, but a shift in the metal skeuomorphed from silver to copper/bronze. A similar trend is discernible at Knossos and additionally, at many of the cemeteries where in EM IIa Fine Grey ware pyxides had been used in burials, Vasiliki ware pyxides and drinking/pouring vessels were used in EM IIB. The latter case hints at a Crete-specific *metallschock* whereby in EM IIB there was an influx of copper/bronze vessels which either became more fashionable than the pre-existing silver ones, or else the supply of the latter became restricted or temporarily halted. While, as noted previously, statistics regarding the quantities of Anatolian skeuomorphs cannot be quoted, the most highly metallicising shapes are all produced in either the shiny black or red wares.



Together these cases suggest that distinct wares were deemed appropriate for different functions and contexts. Given that a general notion of appropriateness seems to have been in operation in the Aegean at this time these ceramic skeuomorphs, which due to their association with a valuable, rare and exotic metal, were thus perceived as suitably valuable and visually appropriate for containing precious substances. They also appear to have been suitable as substitutes for the more 'costly' and rare metal ones, and were therefore perhaps more appropriate and viable to bury with the dead as a means of maintaining an appearance of wealth and opulence at a funeral. If this was the case, then in turn it suggests that metallic skeuomorphs may already have enjoyed a higher relative value than non-skeuomorphic vessels. A similar situation may have existed in north central Anatolia where most skeuomorphs are reported as coming from graves, although the quantities and types of non-skeuomorphing wares in these graves is not recorded. At Beycesultan they have been found in some domestic contexts but groups of them were also found in the temples.

Allowing for depositional and recovery factors which could skew the received picture, both the dearth and abundance of skeuomorphs at different sites demands some consideration. For example, from the excavation reports it seems that a good proportion of the ceramic repertoire at Beycesultan shows metallic influences, which contrasts with the situation at Alaca. Lloyd and Mellart's theory is that there was a direct inverse relationship between the availability of metal vessels and the quantities of skeuomorphs at sites, offering the contrast between the lack of metal vessels at Beycesultan with the wealth of them in the tombs and at Alaca as evidence for this (1965:87). While such a theory may hold for certain times and places, as a generalisation it is problematic as in the case of Alaca where it cannot be substantiated due to the lack of domestic context evidence. Furthermore, the nature of skeuomorphism allows for various combinations of social strategies from emulation, through competition, to their use as substitutes or perhaps even as means of deception. Moreover, as we will see in section 8.2, this correlation does not work in the case of Kültepe where a wealth of bronze vessels as well as many highly skeuomorphic ceramics have been found. However, it is a theory that may be worth further consideration in specific situations, such as FPP Crete.

The large quantities that these skeuomorphic drinking vessels sometimes occur in (1,234 sauceboats at Ayia Irini II; Wilson and Eliot 1999), also raises the question why so many of these prestige vessels were sometimes needed. Taking Ayia Irini as a case



in point, the answer perhaps lies in the interpretation of this site (and perhaps others) as an emporium which, due to its natural protected harbour and geographical location, ideally positioned it as a bridge between the mainland silver mines at Lavrion and the well established natural resources of the Cyclades. In the climate of internationalism prevailing in the Aegean (Renfrew 1972:451-55), Ayia Irini would have profited from its role and in order to enhance and maintain the town's prestige and status, and thus be accepted as a player in this international scene, there would have been a need for luxury drinking vessels for entertaining purposes. It would not have been economically viable to possess sufficient numbers of metal drinking vessels and therefore ceramic skeuomorphs would have been the most appropriate alternative. Perhaps a similar situation prevailed at Beycesultan and west coast Anatolian sites involved in the metals trade with the Aegean.

The mid to late EBA was thus a time of the beginning of something big not only in terms of cross-craft influences, but also what this indicates with regard to the role of metal vessels and their skeuomorphs in fulfilling novel social imperatives. Manifestations of this inter-craft relationship were to continue for a very long time to come, and the following three sections consider its development and decline.

### **8.2.1 Absences and Presences (MBA)**

As we saw in Chapter 5, the FPP in the Aegean is largely devoid of metal vessels and in Anatolia their quantity, variety and distribution is restricted in comparison to the previous period. Nevertheless, it is possible to detect their presence through the ceramic skeuomorphs, particularly in the Aegean, where there is a wealth of hints and reflections, contained in a variety of wares, of vessels which I propose were intended to evoke gold and silver and which, through a combination of human action and accident, have not survived in the archaeological record.

Whereas in the previous period it could be said that there was a certain congruency in the skeuomorphs of Anatolia and the Aegean, in that generally not particularly thin ceramics in shiny dark grey/black or red/brown were employed to produce a range of somewhat related drinking and pouring shapes, in the early MBA it is possible to perceive a distinct divergence in the way that metal was expressed in clay between the two regions. This is in part due to the fact that many of the MBA Anatolian shapes are continued developments from the EBA with certain forms such as the beak-spouted jug



becoming highly stylised, and other such as the animal rhyta being new developments. In the Aegean, although there is not a break with the ceramic tradition of the EBA, the MBA Minoan fine wares evidently developed along a different trajectory, displaying a finesse and artistic complexity not previously seen there. This divergence in the appearance of the skeuomorphs, which makes them regionally distinct while at the same time equally evocative of metal, was no doubt also due to specific cultural idioms and differences in regional aesthetics, and thus demonstrates clearly the role of choice on the part of potters in the creation of these objects and in the process of innovation.

The developments in ceramics during this early part of the second millennium in general laid the foundations for developments in the subsequent periods in each region, producing highly distinctive Minoan and Hittite pottery styles, the former gaining considerable currency in the Cyclades in the FPP, and also on the Greek mainland in the SPP. The most characteristic feature of the skeuomorphs of this period in Crete, which is both novel and significant, is that they combine most general features of metal vessels as well as specific ones known from later metal vessels, resulting in ceramic vessels which seem to have been intended to reflect metal vessels in a very comprehensive way. In large part this is facilitated by a sudden interest in reflecting technical details of metal vessel construction and decoration, features to which Anatolian skeuomorphs had been expressing considerable fidelity since the EBA. There is thus a perceptible shift in both the cognitive and mechanical realms demonstrated by Minoan FPP skeuomorphs, the reasons for which this section primarily seeks to explore. It is not possible to see such influences in the ceramics of the Greek mainland and Cyclades which as noted in Chapter 3, appear to have experienced something of a recession at this time. Furthermore, it is only in one MH ware, Minyan, that the continuing influence of metal can be perceived.

### **8.2.2 Surface appearance**

As noted above, Anatolian skeuomorphs during the whole of the second millennium continue to be made in either shiny red or black slipped-ceramics, the only difference from the preceding period being that the colours are more definite and less variable, almost as if this metallic reference had become part of the ceramic grammar. The correlation of the red shiny covering with the appearance of copper has been noted with respect to the vessels of both the western and central Anatolian areas (Lloyd & Mellart 1965:70). Although no statistics are provided regarding the relative quantities of the red



to black varieties, based on those vessels described and illustrated in the excavation reports at Kültepe the former seem to be more. Given the great quantity of bronze vessels found at this site, it is tempting to postulate that the predominance of shiny red slipped vessels in the karum is a reflection of the abundance of bronze vessels and absence of gold and silver found in this part of the settlement. Although certain types of decoration associated with metal vessels continues on vessels from the western area, such as horizontal ribbing and incised lines under the rim and on pedestals (Lloyd & Mellart 1965: figs.P.1.10; P.17.2,7; P.15.1), imitation repoussé arcading has largely vanished, perhaps only being represented in very perfunctory form on some shallow bowls and jugs such as those from Beycesultan (Lloyd & Mellart 1965:figs.P.32, P.33, P.35). At Kültepe the surfaces of skeuomorphs are generally not embellished in this way, although there are some conical rhyta, the stems of which have indications of both straight and torsional arcading (Fig.8.42).

Turning to the contemporary Aegean, the lustrous sheen and colours in which MH Minyan ware occurs, which range through grey, red and yellow, have been thought to imitate silver, copper and gold respectively (Davis 1977:123; Laffineur 1976:205). However, Furumark largely discounted this as evidence for metallic influence, laying greater emphasis on the ceramic character of this ware, particularly the goblets (1941:58, n.3), an opinion with which Davis appears to agree (1977:124). Similarly Matthäus believes that MH ceramics need to be approached cautiously as a means of reconstructing lost MH metal forms. A more substantial case for this ware's metallic origins emerges when their colour is considered in conjunction with the shapes in which this ware was produced (see section 8.2.3 below).

On Crete, from MM I-II a fashion for light-on-dark, polychrome pottery in the forms of Kamares and Egg-shell Ware becomes apparent particularly at the palaces. These are characterised by a black ground decorated in cream, sepia and red with motifs of types (rosette, running spiral, arcades and foliate band) and placements (cup base, mid point and rim) that are extremely similar to those found on later extant precious metal vessels from the Shaft Graves (Fig.8.43). The colour combination and high shine of the Eggshell Ware vessels gives the immediate appearance of silver vessels (Evans 1921-35 I:499; II:640) inlaid with gold, copper and perhaps also tin, the metallic aspect of which is enhanced by the technical details incorporated in them (see further below).



Skeuomorphs of copper/bronze vessels are much rarer from this period onwards. Matthäus has suggested that this may be due to gold and silver smiths at palatial centres having been master crafters in contrast to the bronze smith who made more practical, everyday objects (1980:338). Their respective products would therefore have been subject to similar relative value constructs, a situation promoted by the comparative rarity of gold and silver on Crete. One example of a bronze skeuomorph which illustrates the type of vessel that may have been in circulation in this medium is a kind of rounded amphora with bi-lobed rim and dates to MM IB from Vasiliki (Fig.8.44).

### 8.2.3 Shape and Function

Many of the EBA shapes noted as being skeuomorphic continue into the OATC period including the hemispherical carinated bowls, one-handled cups and beakers, kantharoi, pedestal bowls and beak-spouted jugs (Lloyd & Mellart 1965: 85, 103). The range of ceramic shapes at Kültepe,<sup>29</sup> is wide and comprehensive and apparently many, including the cooking vessels, are imitations of metal vessels, with there apparently being as many ceramic drinking vessels in the karum houses as other classes of vessels combined (ibid:53). The rich variety of the OATC pottery in general, and skeuomorphs in particular, is not seen in the subsequent Hittite periods even though that of the later periods develops from the OATC period repertoire (Özgüç 1986:53).

Notable among the shapes which have been identified by the excavators as particularly skeuomorphic are the two-handled goblets (Özgüç 1986:56) which cease to be produced in the Hittite periods, the lobed or 'crinkly rim' kantharos and trefoil jug (Fig.8.45; Koşay and Akok 1973:76; Lloyd & Mellart 1965:87, 111) with some examples of both shapes having a strainer in one lobe. The former is a development of the EBA kantharos and has other metallic features such as horizontal raised bands at the mid-point where the cup meets the pedestal and depas-style handles. Although this shape is not known in metal from Anatolia, a contemporary silver example is known from Gournia on Crete. As for the trefoil jug, this type of mouth is known on extant HE metal vessels from the Kinik-Kastamonu hoard, which have a more developed appearance and which therefore together suggest that there existed earlier metal versions of this type. Other new skeuomorphic shapes include the 'fruitstands', some of which have spouts and which may have been used as libation vessels (ibid:59), as were

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<sup>29</sup> I have chosen to focus on the material from this site as it has produced the largest and most varied sample for this period and, given the concentration of metal vessels here also, it is particularly appropriate for the purpose of comparing ceramic and metal forms.



the ubiquitous and highly exaggerated forms of beak-spouted jug which often incorporated strainers in their design, and the various animal-headed rhyta (known as BIBRU in the Hittite texts, Gorny 196:166; Fig.8.46), metal examples of which are known only from the HE period.

The trefoil-mouth jugs and rhyta are thus both skeuomorphs which indicate a metal shape that must have been produced far earlier than the extant metal examples suggest. Other shapes which may also have been inspired by metal prototypes but which are not represented in the extant metal corpus include the two-handled jars with tall flaring neck and flattened, out-turned rim (Fig.8.47). Also, given the existence of a unique bronze bowl with anthropomorphic handles from Kültepe (cat.no.229), it is tempting to suggest that ceramic vessels that have protome decorations as well as known metallic characteristics such as a flaring neck, strap handles, sets of incised parallel horizontal lines and embossed decoration, may also once have existed in metal (Fig.8.47). The alternative is that once again this is an indication that by this point, metallic features had so entered the ceramic vocabulary that they were incorporated in ceramic vessels in a semi-conscious, once-removed way and were thus part of the wider cross-craft pollination witnessed.

Specific examples of ceramic types for which metal examples have survived include some of the bronze cauldrons (e.g. cat.nos 282-3) from the citadel at Kültepe which are contemporary with level II of the karum (Özgüç 1986:74); the bronze footed bowl with two spouts (type 25a cat.no. 233), from level 7 on the citadel, has many pottery versions in level Ib in the karum, mostly from tombs (Özgüç 1999:127<sup>30</sup>), as do the contemporary bronze kantharos (cat.no 232) and the gold beaker (cat no.255; *ibid*:121).

On Crete, many of the fine ware shapes have been noted as having a metallic inspiration (Betancout 1985:80), with carinated forms on cups and the smaller shapes, thin strap handles, everted and undulating rims. All of the skeuomorphic wares noted in the section above occur in drinking and pouring shapes which in addition are often small, another aspect of these vessels which perhaps was a reference to the small size of the gold and silver prototypes. Particular variety is seen in the drinking shapes which include straight-sided, rounded, semiglobular, carinated and conical cups, as well as small goblets and beakers (*ibid*:fig.48). In the later part of the period other highly

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<sup>30</sup> Özgüç describes this footed bowl as a goblet but the rivet holes for handle attachments make this unlikely.



metallic features start to appear which are known from extant metal examples of the following period. Notable among these are the Vapheio-type spool handle which occurs on ceramics from Knossos dating to MM III (Fig.8.43), and contemporarily, the straight-walled cup with horizontal ribbing and strap handle (ibid I:590, fig.434a), gold and silver examples of which have been found in the Shaft Graves at Mycenae.

Two new drinking shapes, the kantharos and the one-handled goblet, were introduced into both the ceramic and, it would by implication seem, the metal vessel repertoires in the early part of this period on Crete. Both the straight and lobed-rim versions closely imitate an Anatolian ceramic forms (Figs.8.48, 8.45) known from contemporary Alaca, Kültepe as well as other sites, and Evans believed they derived from Anatolian metal prototypes and became known on Crete and the Greek mainland as a result of the metals trade (Evans 1921-35 I:191-2), a theory echoed by Davis (1979). The high swung handles are highly skeuomorphic and are mirrored on a later gold kantharos from Shaft Grave IV, and several one-handled goblets were also found in other Shaft Graves. Skeuomorphs of the latter with imitation rivets on the handle have been found at Cretan palatial sites (Evans 1921-35 IV. I: 364,fig 304).

Minyan ware has often been attributed to metallic origins due principally to its sharply carinated forms, stemmed drinking forms and angularly defined components (Fig.8.49; Davis 1977:123; Laffineur 1976:209). As noted above for the EBA, metal skeuomorphs particularly occur in shapes connected with the manipulation of liquids. That the principal shapes in which Minyan ware occurs are the kantharos and high-stemmed goblet is therefore also suggestive in this regard. These vessels also have high looping strap handles which are more 'natural' to the medium of metal as they put a strain on thin bands of clay. The fact that imitation rivet heads are missing from Minyan ware perhaps points to their Anatolian origin, in which case this would be a faithful observation of the fusion techniques used in the metal versions. Additionally, they have long narrow stems, the earlier ones with rings, which would be congruent with the technique seen earlier at Alaca of forming the stem from a sheet, beating out the decoration and then soldering the whole into a cylinder. Examples of contemporary variations of metal kantharoi are known from Kültepe and the Töd Treasure, the latter bearing a close resemblance to a ceramic version from MH/LH transition Peristeria, which supports the theory that these ceramics indicate a metal vessel shape which has not survived.



In Chapter 2 the question was raised as to whether west Anatolian influence on Greek mainland metal vessels continued into the MH period, perceived through the types of skeuomorphs, and also whether it is possible to fill the gaps in the metal vessel corpus of this period. That the former continues seems likely, even if this was in an indirect and internally driven way due to mainland potters choosing to continue already established EH III forms, that were themselves derived from Lefkandi I (Rutter 1979). However, the skeuomorphs betray an indigenous Helladic development that must have been a result of developments in sheet metal technology. These vessels, and their immediate EH III predecessors, tend to have strap handles, which contrast with the tubular (i.e. west Anatolian-style) handles of the Lefkandi I group, and the general absence of handles on EH II tableware. This suggests that the strap handle type reflects a change that took place in metal work rather than pottery, and also represents a substitution of the more technically complex hollow Trojan handle, for the simpler to form strap handle. Similarly, the angles and carinations of these skeuomorphs would have been easier and safer to make in metal, especially particularly malleable gold and silver, because in pottery the various parts (base, body, neck) would have to have been formed separately and pieced together.

The question whether Minyan reflects a full service of metal drinking and serving vessels that were in circulation on the Greek mainland is slightly more problematic. On the one hand the lack of well furnished MH burials and settlements, and the total absence of other wealth indicators such as metal vessels, led to the traditional belief in this area's poverty and decline. However, as Nakou has observed, this impression is probably illusory, the apparent greater metal wealth of the preceding and succeeding periods being exceptional hoard and grave deposits, that trapped for archaeological discovery otherwise elusive metalwork (1997). This point is supported by the fact that the silver mines of Thorikos were active in EH III/MH (ibid). Looking forward in time, the apparently sudden appearance of distinctively Helladic metal vessel shapes in the later Shaft Graves, suggests that there must have been a considerable period of development in this artefact class, even if the latter do not display the same technical proficiency as their Minoan counterparts (Davis 1977:328). Therefore, given the above comments regarding the skeuomorphs of the MH and late EH periods, it could be argued that a distinctive Helladic style of silver vessels began at the turn of the third/second millennia, and that although there may not have been many metal vessels



in circulation on the Greek mainland, the few that were present left their indelible impression on ceramic drinking shapes. However, due to their rarity and concomitant high value, and also the fact that the mortuary arena was not used as a means of status expression at this time, these few metal vessels were not preserved for posterity by being taken out of circulation in this way.

#### 8.2.4 Technological Details

Anatolian skeuomorphs do not differ from the previous period in the types of metallurgical techniques represented either in this or either of the two ensuing LBA periods. However, a significant shift is witnessed in this regard in Minoan skeuomorphs. Their most characteristic feature is that they combine several technical features of metal vessels resulting in ceramics which seem to have been intended to reflect metal vessels in a comprehensive way. This is illustrated particularly by the skeuomorphs from deposit Delta at Kastri, Kythera whose features together form a complex of metallic references comprising imitation rivets accurately placed where the handle joins the rim, raised central ribs and rolled edges on handles which can also have the tanged lower terminus suggesting laid-on type of handle, as well as examples of carination and in one case the use of purple at a joint to perhaps indicate copper solder. On Crete, egg-shell ware in particular typifies this approach as in addition to its colour, sheen and many of the details listed above, its extremely thin walls directly reflect those on precious, and in this particular case silver, vessels (Evans 1921-35 I:188, 191, 242, fig.136,k,o,p; IV.I:98). This comparatively sudden indication of a knowledge of metallurgical techniques as expressed through the skeuomorphs, was perhaps a consequence of the centralisation of skilled potters in the Cretan palaces. Such a situation would have enabled the potters closer and more regular contact with metal vessels. It is therefore during this period that more technical details of the vessel construction start to be become expressed in clay.

Imitation rivets are probably the most obvious indication of metallic derivation but, in addition to being now correctly placed on skeuomorphs (Fig.8.50), painted dots on the inside of some FPP open vessels indicates the later-known practice of using ornamental rivet heads on metal vessels (Davis 1977:104-5). Their appearance may also indicate other interesting possibilities. Firstly, the one cited above is painted red which could be an indication that this was meant to represent copper. Secondly, Evans cites a ceramic three-handled, lobed-rimmed kantharos from Pseira with imitation rivets on the handles



(ibid I: fig.139d), which is an interesting example of the skeuomorphing of the shape of a foreign metallic form, but not its technical details in the sense that soldering rather than riveting was used in west Anatolian metallurgy for joining vessel components. Whether this indicates a lack of familiarity with the metal prototype, or the Minoan potter's adaptation to local idioms and metallurgical techniques is not possible to determine.

Distinct types of handle techniques and decoration known from later metal vessels start to occur in this period. Laid-on handles (Mountjoy 1993:38), found particularly on ewers with extended tangs, are not a ceramic feature as clay handle termini need to be smoothed to the body to ensure adhesion. They feature increasingly between MM IIIB-LM IA on vessels that incorporate other metallic features such as omphaloi and flattened rims (which appear in MM II Evans 1921-35 IV.I:pl.30b). Kamares black handles decorated with pale slashes are reminiscent of horizontally ribbed handles known from both SPP Crete and EBA Beycesultan. Davis notes a flat-spouted vessel from Phasetos on which this occurs and on which there are also three imitation rivets. She suggests that this painted 'cross ribbing' may have been inspired by the plating technique found on the cylindrical thickened lower end of handles on later metal vessels and that the vertical raised rib on this and other ceramic handles (e.g. an MH ewer from Lerna and an EB III ewer from Tarsus) may reflect the technique of casting or hammering into a mould (1977:113-4). She further suggests that this cross-ribbing for plating technique may have been learned from Anatolia (ibid:114).

As noted above, it seem very likely that Minoan Eggshell ware was intended to evoke inlaid silver vessels. Davis has observed that the practice of decorating the inside of metal cups is analogous to that of painting ceramic cups on the inside (1977:104-5). What is particularly telling in this regard is both the choice and placing of a particular motif, a rosette on the base (Fig.8.51), which is known from some FPP precious metal straight-sided cups (e.g. Davis 1977:cat.nos. 24, 145). Another example highlighted by Evans is a bowl which appears to evoke gold inlay perhaps into silver through orange yellow on dark ground (Evans 1921-35 I:243, fig.183a,2). Another form of decorative technique which is particularly evocative of the extant metal vessels is repoussé (ibid I:241). This takes two principal forms: torus mouldings around the neck juncture which is found mainly on ceramic ewers and which on metal vessels was used to hide a join; raised horizontal ribs (straight-sided cups, Fig.8.52; cf. Davis 1977:cat.nos.58, 65), and



arcading on vessel bodies (Fig.8.52). The arcading is undoubtedly copying metal prototypes as this technique would especially have put a strain on the very thin fabric of the clay. Other ways that these metallic decorative features are expressed in these wares include stamped and painted decoration on Eggshell ware (Fig.8.53). More generally, these features are particularly important in our understanding of the evolution of the Minoan metal smith's craft as they allow us to push back the date for the earliest use of these techniques.

### 8.2.5 Social Context

At Kültepe, most of the skeuomorphs came from domestic rather than funerary contexts (Özgüç 1986:53), which is the opposite depositional pattern to that observed with the metal vessels. As might be expected, there is a variety of drinking and pouring shapes, and a key new feature of many of them are the strainers incorporated into the spouts and lobes of jugs and kantharoi, as well as bowls and separate funnels (Lloyd & Mellart 1965:figs. P.13.34; P.16.26; P.20.13-14). While on the smaller, closed shapes such as the small 'teapots' this may indicate a hot, perhaps herbaceous drink, on the larger and more open shapes this is more indicative of a cold drink such as wine which may have contained lees. The skeuomorphs of this period in Anatolia also include a selection of cult-related vessels which were found in houses that were evidently owned by the wealthy Assyrian merchants as they were found in archive rooms.

The combination of these types of skeuomorphs and the many metal vessels found at Kültepe would therefore seem to suggest firstly a situation of conspicuous consumption on the part of the wealthier inhabitants of the karum, witnessed in the regular practice of burying large quantities of metal, and thus removing them from circulation. The fact that many of the latter appear to have been crushed prior to deposition is also suggestive of a ritual termination of the life of these vessels. Even given the comparative availability of bronze to the Assyrian merchants, and we cannot be sure that some of these graves were not those of wealthier members of the indigenous population, this was nevertheless a considerable investment made for a deliberate purpose. Furthermore, the presence in the houses of skeuomorphs of ritual paraphernalia, metal examples of which were used in the public temples (Özgüç 1986:70), and also skeuomorphs connected with the manipulation of probably alcoholic liquids, suggests a situation in which the merchants who owned them were emulating the possessions and social practices of the elite who owned the metal versions. There was therefore a social



imperative which demanded the ritualistic consumption of high value metal vessels, and the possession of skeuomorphs by means of which appearances could be maintained by the living. This would further suggest that sumptuary laws concerning the use of bronze were not in operation but that, given the not infrequent presence of skeuomorphs of silver in the *karum*, the possession of silver vessels outside of elite circles may have been restricted in this way, and that these skeuomorphs were thus a way of circumventing these restraints.

Turning to the Aegean, the above discussion has demonstrated that FPP Minoan skeuomorphs exhibited both the artistry of, and an overall fidelity to, the metal vessels known from the ensuing SPP period. Furthermore, most Kamares comes from Knossos and no examples of the arcaded type of egg-shell ware skeuomorphs have been found outside of Knossos, suggesting that these particularly skilfully made metal skeuomorphs were the preserve of the ruling elite. Given the dearth of extant contemporary metal vessels, the question arises as to how the creators of these objects gained such detailed knowledge of the technical aspects of the prototypes. Closer physical contact between the smiths and potters of prestige products in their now centralised places of work has already been suggested. Given the indigenous nature of the underlying ceramic style, and the consistency in the metallic elements combined in these skeuomorphs, this in turn means that the smiths must have been producing metal vessels in Crete that acted as direct inspiration for the skeuomorphs, rather than the latter having been modelled on imported metal vessels. This therefore supports my contention that when looking at the skeuomorphs of this period we are in fact seeing a whole range of lost metal vessels. It also returns us to the possibility that the metal vessels, which must have been produced regularly by the resident palace smiths, may have been made predominantly for export to generate wealth for the palatial regime who used in their rituals and feasting, an array of convincing metal skeuomorphs which were in themselves items of skilled crafting with no doubt a relatively higher value than standard table-ware. This theory concurs with the Aegean character ascribed to some of the vessels in the Tôd Treasure (see Chapter 3 above), and would also account for the presence of Anatolian features in the latter if, as seems to be the case, Anatolian metal vessels were in circulation in FPP Minoan Crete.

The comparative lesser affluence of the Greek mainland at this time, combined with the total absence of metal vessels, would seem to suggest that there were very few metal



vessels in circulation in this area in the MBA. In this scenario, Lloyd and Mellart's theory noted previously would seem to fit a situation in which metal skeuomorphs were desirable substitutes. Given the sudden appearance of unprecedented wealth at the start of the next period at Mycenae, it is tempting to postulate that metal skeuomorphs were used as part of a strategy to gain access to the wider world of elite sumptuary behaviour. The likelihood is that MH skeuomorphs were stylistic by-products of long-established trade links with Anatolia, and a class of object which identified their users as acceptable international players by means of which affluence could be gained. Nor was this social and economic expansion necessarily oriented towards solely at the Near East. The later evidence for Greek mainland trade with central and northern Europe (see Chapter 3) may well have had its roots in the MBA, the MH communities acting as conduits for the introduction of exotic knowledge and novel elite consumption habits further north which were already prevalent in the Aegean (Sherratt 1987a). In the SPP, contacts with central Europe may have taken on greater importance as the Greek mainland (and perhaps also Crete) sourced more of their tin supplies from this direction than the near east (Muhly 1985:287; Strøm 1984:191; Wertime 1978). As trend setters and emblems of comparative sophistication to their northern trade partners, MH communities would have gained a social and trading advantage. The latter would also have been true with respect to their Aegean neighbours if, given the Greek mainland's more immediate proximity to this alternative tin source, they developed a role as intermediate brokers for this important commodity.

### **8.3.1 Ripples and Reflections – the Attenuated Influence of Metal (LBA)**

I have combined the discussion of the skeuomorphs dating to the final two periods covered by this thesis for two reasons. Firstly in Anatolia the picture gained from the skeuomorphs of the OATC period is sustained during the rest of the LBA, Hittite ceramics and metal vessels largely developing out of the types and decorative styles established during the MBA. There is thus little in addition that can be said regarding Hittite skeuomorphs, especially as the publication of ceramic assemblages from sites is so uneven, and again no statistical information is provided. While the LBA Aegean ceramics are some of the most technically and, in the case of those of the SPP, artistically, developed of the BA, the influence of metal vessels can be characterised as having become fainter as the references become more generalised and part of the grammar of specifically the fine palatial shapes. Davis suggests that the decorative component of the ceramics of this period developed along lines from within the craft



but that metallic sources of inspiration were drawn on for the true luxury items (Davis 1977:94). For the majority of the period, coloured and burnished slips are no longer applied to evoke the colours and sheen of various metals. Instead floral and marine motifs are painted on ceramic vessels, some of which can be seen to derive in their shape and/or technical references to metal vessels. Tortoiseshell Ripple, dating to MM III-LM IA, is the only ware that uses surface effects and sheen to evoke metal, and generally represents an end to the tradition of manipulating the surface of ceramics to produce skeuomorphs, although lustrous orange/red and monochrome goblets dating to LH II/III are known (Mountjoy 1993:75, fig.157).

This picture is extended to Mycenaean ceramics on which Minoan styles, especially in the SPP, had a great impact, and which in the TPP, became removed from metallic models in all but some shapes and in one specific innovation, the covering of certain types of vessel with tin. Metal vessels had long since established a deep influence on second millennium prestige ceramics (Evans 1921-35:IV.II:1012, fig.962) and that by the LBA, the need for substitutes and close look-alikes had largely subsided. Evans suggested that this was due to the palace elites having sufficient access to the metal vessels that there was no need to maintain (false) appearances. He maintained that this was especially likely to be the case at Knossos, in view of the fact that the metal vessels found there probably represented only part of the original inventory, the rest having been robbed out over the centuries (ibid. IV.I:353).

### 8.3.2 Surface Appearance

Early in this period the last metallicising ware, Tortoiseshell Ripple, appeared particularly at palatial sites on Crete. This employed broken dark brown and red/brown vertically parallel lines on a light ground to evoke the play of light on the surface of faceted gold (Fig.8.54; Evely 1993:622). A good example of the type of effect which this decoration was trying to evince is shown by the gold Vapheio cup from Grave Gamma at Mycenae (Fig.8.54). Tortoiseshell Ripple was one of the commonest forms of decoration found on fine table wares dating to MM III-LM IA, the most popular shapes in this ware were the semi-globular and Vapheio cups, ewers and rhyta (Mountjoy 1993:35), shapes which often display other skeuomorphic features, such as the central rib on the Vapheio cup being hollowed out from the inside as on the later known metal versions.



In the TPP period the only kind of attempt at giving ceramic vessels a metallic surface appearance occurs by means of an innovative approach which is so direct and simple that it is surprising that it was not previously done. This is the late and apparently infrequent occurrence of ceramic vessels covered in tin foil, which would have originally given a bright, shiny, metallic appearance. Only very small quantities of the original tin survive in corroded (blackened) form and so it has not been possible to determine securely the original colour. However, replication experiments conducted to ascertain how the tin may have been attached to the ceramics, accidentally discovered that when heated to just below melting point, the tin strips on the pottery turned a golden colour (Gillis 1992:13; Gillis and Bohm 1994). It has not been proven that LH craftspeople used this method to 'gild' ceramics, although Gillis proposes that its simplicity probably lead in antiquity to the serendipitous realisation that the colour of metals could be altered through chemical and physical means (Gillis 1996a:1200), and experiments to clarify this are apparently ongoing (ibid: footnote 13).

Such vessels, which date to LH IIIA1 and total almost 150 (Gillis 1991:17), have been found in rich chamber tombs at Asine (Gillis 1996b), Prosymna (Blegen 1937), Mycenae (Wace 1932:182-3), Dendra (Persson 1942:135-6, fig.103), the Athenian Agora (Immerwahr 1971:127-28; 171-76), Rhodes (Mee pers.comm.) and, dating to LM IIIB, on Crete (Kanta 1979:315, 327). The shapes involved are restricted to the goblet, kylix, conical cup, jug, jar and wide-rimmed bowl, that is, shapes used in funeral rites (Gillis 1991:16), and in the case of the open shapes the tin was applied on the interior as well as the exterior (Gillis 1996b: figs. 5,6). Metal versions of these shapes have been found in several Greek mainland tombs, and from Dendra there is an indication that these vessels comprised a drinking set as they are found in metal in Tomb 10 here, together with an exact ceramic set that was not covered in tin (Wright 1996:300). There thus appears to be a connection between some of the wealthiest burials of this period, precious metals and tin-covered vessels (Gillis 1996a:1203).

The question then arises as to what was the specific motivation and strategy behind the introduction of this innovative form of skeuomorphism, that is, beyond the apparently obvious and general intention to possess very metallic looking grave goods. The most predictable explanation is that, given the pale and shiny appearance of tin, they were intended as substitutes for silver (Persson 1942:135-6; Wace 1932-182-3), which would carry with it the intent to deceive. As Gillis has noted, this introduces other



considerations such as how convincing these fake silver vessels would have been, who would have been privy to the deception, and whether they were designed primarily to impress people outside of the deceased's immediate circle of mourners (1992:15), that is, a cheap way of achieving a sumptuary differential and elite/family group status enhancement. Against this is the evidence outlined above for skeuomorphs of silver, that in the BA Aegean the colour black or dark grey was associated with this metal. Additionally, tin was itself an exotic and precious commodity (Gillis 1991:20), and thus covering fine ceramic vessels in this metal might have been the height of extravagance. Unless or until it is proven that the tin on these vessels was heated to the point of it turning a gold colour, the most credible interpretation is that in LH IIIA1 tin-covered vessels were a bright, shiny white colour, represented a new method of value enhancement, and a novel means by which to express great affluence in the competitive funerary arena. Furthermore, if this colour correlation is correct, it may be reasonable to hypothesise that the white colour on earlier Eggshell ware was meant to represent tin inlay in silver vessels.

### 8.3.3 Shape and Function

As Matthäus notes, references to metal vessels in the ceramics are on the whole very general and feature more closed shapes including variations of jugs, jars and ewers (1980:343; Evans 1921-35 IV.I:299). Far less variety is seen in the drinking shapes which mainly comprise the semi-globular cup, the short globular goblet and the two-handled goblet, although, the skyphoid bowl which is new both in metal and ceramic, may have been used for drinking. The globular goblet with a small foot and strap handle, which is known in precious metals from mainland graves, became very popular in ceramic in LH IIA. The handle sometimes has a clay rivet at the top and also a central lengthwise groove (Mountjoy 1993: figs. 82-83). The fully developed stemmed goblet, with a solid stem formed separately from the bowl, appears first on the Greek mainland before it is known on Crete in the LM II period, where it appears in large quantities at Knossos (*ibid* IV.I:360). These supersede the LM IA and LM IB deep one-handled cups, which sometimes have imitation rivets, suggesting that metal versions had existed on Crete, although no metal examples are extant (Davis 1977:111).

Due to the loss of clues suggested by surface effects it is, with the exception of the tin-covered vessels discussed above, difficult to determine the relative influence of different metals on ceramics through the LBA. The development in the SPP of different classes



of vessels that are generally more closed and substantial in size, might suggest bronze models, especially as particularly functional bronze versions of these, which are often undecorated and with the riveted joins showing, exist in quantity. However, the heavy repoussé moulding at the neck/shoulder junction of the ceramic versions reference metal vessels that were evidently intended for display (Betancourt 1985:140).

Another vessel type well known in bronze, and of which the clearest case of a skeuomorph in this period occurs in LM IA-B, is the shallow ring-handled basin, smaller examples of which are also known in gilded silver. It is not only because exact metal prototypes of this shape exist which leads to this claim, but because of their very detailed and accurate references to its metal prototype (see further below). Many of the ceramic and metal examples have been found either in funerary (Kastri tombs) or elite/ritual contexts at Knossos, and given their shallow form it is possible they were used either for libation or else as incense/fumigatory burners.

#### 8.3.4 Technological Details

Much the same range of metal vessel construction and decoration techniques are suggested by details on the ceramic skeuomorphs as on those of the FPP. Painted spiral and arcade patterns on LM IB ceramics can be seen as 2-d versions of those found on a silver ewer from Shaft Grave IV at Mycenae (Rehak and Younger 2001:414; cf. Davis 1977 no.135 p.149-55, no.43 fig.120). The type of squat arcade decoration which emanates from a base surrounded by concentric circles on a metal vessel (e.g. Davis 1977: cat.no.19), is a form of decoration which is common in LM IB painted pottery and once again reflects the technique of repoussé (Popham 1967:341). Similarly, foliate bands seen on the rims of bronze shallow basins (type 28b) are also found painted on the shoulders of amphorae, stirrup jars and ewers referencing the metallic repoussé version (Betancourt 1985:157; Evans 1921-35 IV.I: figs.233 , 234b, 238, 261, 270, 271).

High-looping handles, raised neck bands imitating the obscuring of unsightly joins, central grooves or spines down the centre of handles and laid-on handles also continue on large jars, bridge-spouted jugs, ewers, beak-spouted jugs, and rhyta, with clay rivets sometimes being added (Evans 1921-35 IV.I:215, fig.165). Probably the most complete combination of these features is seen in the Marseilles ewer (Fig.8.55). Pertinently, it has three imitation rivets where the handle meets the rim, which as noted in Chapter is a



feature identified by Davis as indicative of Cretan-made metal vessel rivets. This also occurs on a similar type of ewer from Palaikastro (ibid IV.I:283,fig.217). Other possible reflections of construction techniques include the riveting of several plates together as suggested by the three parallel rows of dots painted on to two large LM IB amphorae, one from Mycenae, the other from Thebes, Egypt (ibid IV.I:275, fig.208-209). The practice of strengthening handle edges by rolling them around copper wire is also suggested by handles with raised, rounded edges (Mountjoy 1993:38)

### 8.3.5 Social Context

The nature of the skeuomorphs of this period in both Anatolia and the Aegean show that the influence of metal on pottery was well established to the point of metallic features entering the ceramic syntax. In Anatolia the idea of representing metal in an immediately visual way through the use of colour, can be seen to have filtered down to classes of ceramics used at most Hittite settlements. This means of referencing metal had become mainstream in the sense of being part of a wider fashion, perhaps losing some of its valency as shiny red and black surfaces were used for much of the fine wares. The more highly skeuomorphic pieces which combined surface colour and eccentric versions of metallic shapes were still mainly the preserve of elite and ritual contexts. In the Aegean, the desire to evoke silver seems to have passed, with skeuomorphic efforts at evoking a metallic surface being centred early in the period on gold in the form of Tortoiseshell Ripple, and in the middle of the period on creating the effect of solid tin vessels. Other than this, metallic references were most direct in the form of technical details such as fictile rivets and overall shapes, but even the combination of these features was in no way deployed with the intention of creating ceramics that could in any sense be mistaken for metal vessels. The metal affluence of this period may have resulted in a reduced need for fictile substitutes, but equally the metal skeuomorphs, which occur in fine/Palatial wares and in elite domestic and funerary contexts, may have combined references to metal with new fashions in ceramics, resulting in a new form of value-enhanced, prestige objects.

Turning to the use of tin to cover vessels, this development represents a cultural innovation. Irrespective of the mechanical or chemical means by which it was applied to the pottery, its sudden external use (as opposed to internal use as an alloy) denotes an awareness of a use for this metal other than the immediately practical one of providing strength in an alloy, and a conscious choice to use it in a novel way to achieve other



purposes. That the latter was connected to social strategies is evident from the metal's aesthetic application and the use context of the vessels. In the light of Voutsaki's model for this period being one of spiralling elite competition in the Argolid, after which Mycenae became the focus of local power and exerted sumptuary control over its neighbours (2001), these tin-covered vessels come into focus as another form of novel prestige object, invented to satisfy an ever increasing need for the rare, exotic and costly. How, though, did it become possible for the mainland elites to devote quantities of this metal to less directly functional purposes?

The answer to this may lie in the source of the metal itself. If as suggested above the mainland communities were obtaining increasing amounts of their tin from central Europe then, given their location between the tin sources and the rest of the Aegean, they may have acted as the main access point for this commodity with other Aegean communities. This would have given them a certain political and economic leverage, and consequently power in their dealings with the rest of the Aegean. Such Greek mainland contacts would have positioned them as the gateway to this alternative source of a very important commodity and, as sellers-on of it, their wealth would have been enhanced considerably. In the late MBA tin bronze was 50% less common in Crete than elsewhere in the Aegean (Gillis 1991:17) and this may have been due to a disruption in the overland tin supply following the destruction of Mari in 1758, and perhaps also greater control of access to tin from Anatolian sources by the Hittites (Eaton 1991:163; Frangipane 1985:figs. 3&4; Strom 1980:112). The use of tin rises again in the second half of the LBA from c.15<sup>th</sup> c., reflected also in its use to coat pottery, which from the discussion above appears to be a Greek mainland-derived innovation. Perhaps, therefore, these skeuomorphs hint at economic and political developments that began in an earlier period, and offer one of no doubt many means by which the Mycenae elite in particular gained their wealth and power (Davis 1977:250).

#### **8.4 Textual and Pictorial evidence**

The Linear B tablets seem to confirm the impression noted in Chapter 7, that established sets of metal vessels existed. On one tablet from the 'vase tablets' deposit found near the Sanctuary Hall at Knossos (Evans 1921-35:IV.II: fig.712), a beak-spouted jug stands inside what appears to be a lekane which in turn stands inside a large skyphoid bowl, and next to this a ewer (type 41a) stands inside what is apparently a type 28b shallow basin. On another (ibid:fig.713) is the same type of basin, a ladle (type 60a)



and a jug of unknown type. Other vessels shown on tablets from the same cache include the Vapheio cup and bull's head rhyta, extant metal examples which have only been found on the Greek mainland. Although very few metal vessels have been recovered from the Pylos area, tablets from the palace archive here show that a large number of bronzesmiths were active in this kingdom (Ventris and Chadwick 1973:413), and that there was a variety of metal vessels, including numerous gold examples, some of which were used in ritual contexts (e.g. tablet Tn 316; *ibid*:284-289). The above seems to confirm the observation made in previous chapters, that the extant Minoan and Greek mainland corpora are incomplete, and that many types of vessel may well have not survived. The full array of metal vessels mentioned in the Linear B tablets are shown in Fig.8.56. The kantharos does not appear on these tablets although it appears in lidded form on a much earlier Linear A tablet from Hagia Triada (Evans 1921-35 IV.II: fig.371), suggesting, together with the extant metal vessel, evidence that this shape was no longer widely in use in the TPP. Those Linear B pictograms with metal parallels include the piriform jar, different types of ewer, the amphora (albeit without the tall flaring neck), tripod cauldron, shallow basin (or its miniature 'cup' version, both of which have a ring rather than s-shaped handle), Vapheio cup, the straight-sided cup with handle in the middle (type 9c, although the ideogram shows it with a lid, which is also seen with ewers on Minoan seals), the ladle, lekanai, possibly a small pan (type 27a) or lamp with horizontal handle, hemispherical (cooking) bowl and kylix. Those without extant metal parallels include a two-handled footed bowl, a form of straight-sided bucket with two handles, a tall angular cup/goblet (di-pa=depas?) with either three or four vertical handles (Ventris 1954:15), a tall conical vessel with two handles, the accompanying label for which (u-do-ro) suggests it may have been a water jar perhaps used for baling out a bath (Tn996, *ibid*:329). Also, the pictogram for a bull's head rhyton in metal is shown on the Knossos tablets (Ventris and Chadwick 1973:330, K872), but these have only been found at Mycenae. There are also several metal vessel names the translation of which is either unsure or unknown including a pi-je-ra3 (=pi-a-ra3?, Ta709) which was either a boiling pan or else a drinking bowl (*ibid*:571), pa-ko-to (Ta709), qe-to(wine jar?Ta641), di-pa (goblet? e.g.KN 232), and po-ti-{ }-we (water bowl? K875.6, *ibid*:324) and ka-ra-te-ra (krater? Mentioned only on a tablet from Mycenae Ue611).

That we can be quite confident of the accuracy of the ideograms used to represent metal vessels is illustrated by the following example. The type 12g cup with its handle



extended in one piece from the rim and unattached at the lower terminus (e.g. Davis 1977:108-9, cat.nos. 18, 19), is quite unusual in the Aegean corpus and very distinct in both its formal and technological style. An ideogram which appears on tablets from both Knossos and Pylos show this cup type with this unusual handle construction very clearly (Ventris and Chadwick 1973:327-8 type no. 208, 338, no.238). Additionally, that these ideograms refer to metal rather than ceramic or stone vessels is indicated by the accompanying text, which occasionally states, for example, *ku-ru-so-jo* = 'of the gold', *ka-ko*=bronze, *a-ku-ro*=silver and *mo-ri-wo-do*=lead (Ventris and Chadwick 1973:135) and also by the particularly metallic details of the vessels (Evans 1921-35 IV.I:732).

Aegean pictorial evidence comes from the Camp Stool and Cup Bearer frescos from Knossos, and others from Xeste 3 at Akrotiri which show male figures carrying yellow ring-handled basins. The former two show a seated couple passing a stemmed two-handled goblet between them and a man carrying a conical rhyton, possibly in procession. They are both coloured blue, which has been interpreted as silver (Evans 1921-35 IV.II:389), and the first is decorated with two registers of crescent shapes facing in opposite directions, which Evans interpreted as 'fluting' of the type seen painted on a Minoan amphora found in an Egyptian tomb at Thebes, and also on one from the Acropolis at Mycenae (Fig. 8.57; Evans 1921-35 IV.I:275, Figs. 208,209). This decoration may well have been meant to represent curved ribs done in repoussé, but is also reminiscent of the crescentic repoussé decoration seen on jugs from Alaca and an unprovenanced vessel (cat.nos.34, 37, 40, 121), particularly the way this decoration is set into registers divided by plain horizontal bands. The shape itself, however, is identical to the Mycenaean kylix which has also been found in silver in the Isopata royal tomb and a bronze version in the Tomb of the Tripod Hearth at Knossos (ibid IV.I:365, fig.305). More particularly, this fresco is pertinent as it indicates a specific use context for this type of display drinking vessel, that is, some form of ritual involving perhaps an oath in which a special cup, presumably full of an equally special liquid, is shared. In the same fresco are the remains of what appears to be a picture of another type of chalice (Fig.8.57), this time with a longer, finer stem, and a bulge marking the junction of the cup and pedestal, perhaps indicating that they were made separately. It is coloured orange with black stripes, which Evans interpreted as gold with perhaps niello decoration (ibid IV.II:390,fig.325). If Evans' reconstruction is



correct, then this vessel was very similar, albeit in handleless form, to the gold 'Cup of Nestor' from Shaft Grave IV (Davis 1977:cat.no.63).

The main problem with referring to the Egyptian tomb paintings of the Keftiu for further evidence of Aegean metal vessels, is the tendency of the Egyptian artists to transfer vessel forms, motifs and details between those carried by tribute bearers of different origins, or else combine Egyptian and Aegean elements, resulting in hybrid and stylised representations rather than reflections of historical items. Such is the case, for example, with a particular type of jug with long cylindrical neck and long angular strap handle (Figs.8.59 no.5, 8.60 no.12, 8.61 no.18, 8.62 nos.18-20, 8.63 no.40), which appears to be a play on an Egyptian stone vase shape (Wachsmann 1987:68), but with Aegean decorative elements such as arcading and bands of decoration on the shoulder. Another example is the Egyptian *hs*-vases which have typically Aegean high-looping strap handles attached (Figs. 8.61 nos.16-17, 8.63 nos.34-37; *ibid*:67). However, other jugs with either horizontal or slightly raised beak spouts have much closer Aegean metal (e.g.Davis 1977:cat.nos. 14, 29, 65-66, 91) and ceramic parallels (LMI Floral and Marine styles).

There is also the problematic question of what colours were used to indicate different metal types. The correlations of bright yellow with gold, pale yellow with electrum, and red with copper/bronze seem fairly secure (Wachsmann 1987:56,63,71), but there is some question over whether white was meant to indicate silver or perhaps even tin. Wachsmann identifies a particular type of oxhide ingot that is white, as opposed to the red (copper) ones and the small, differently-shaped white (silver) ones. The former has been variously identified as silver, lead, electrum or tin but Wachsmann, based on the discovery of tin oxhide ingots on the Ulu Burun wreck, appears to conclude these were meant to portray tin (*ibid*:53). There is thus a possible identification of a painting colour convention that white=tin. This correlation is complicated somewhat by the fact that white is apparently also used to identify silver on Useramun's tomb paintings. Additionally, bimetallic jugs are shown in the latter and in the tomb of Senmut, in which the lower half is made of copper/bronze or gold and the shoulder upwards of silver, as well as a footed bowl which has a gold neck and rim, a feature found in certain SPP vessels (Figs.8.60 no.15, 8.59 nos.1,3-4). Neither can blue be proposed as an alternative for representing silver in these paintings, as it was in the case of the goblet in the Camp Stool fresco above, as in the Egyptian paintings blue vessels are labelled as



being of lapis lazuli (ibid:67). In the absence of further evidence then, it is necessary to conclude that the Egyptian convention for metal vessels was that white represented silver, but that in relation to other objects it could also denote tin.

Before turning to the identification of vessels in these paintings, vessels which have not survived from antiquity, it is worth briefly surveying those Aegean vessels represented that have, as they raise further important queries and observations. Gold lion rhyta are shown in the tomb paintings of Mencheperresonb, Useramun and Rehmire (Figs.8.62 nos,5-6; 8.60 no.2; 8.63 no.14) and these are very similar to a gold lion rhyton from Shaft Grave IV that was found with a silver bull head rhyton. Such rhyta are also brought by Syrians in these and other paintings but Wachsmann believes that these objects have been transferred from a source scene of Aegean tribute rather than necessarily indicating historical truth. The other option is that this quite specific type of vessel had a wider extra-Aegean distribution during this period, as suggested by those found in Anatolia at Kinik-Kastamonu, but another alternative, given the close similarity of the Syrian ones to those carried by Aegeans, is that these vessels were originally of Aegean manufacture, traded east that eventually were used to fulfil Syrian obligations of tribute. Gifts presented by the representatives of different places were not necessarily products of, or indigenous to, their countries e.g. Aegeans are shown bringing lapis lazuli (ibid:54).

There are also silver amphora type vessels (Figs. 8.60 no.9, 8.61 nos.12-14, 8.62 no.16, 8.63 no.31) with the kinds of handle that extend almost horizontally from the rim and are attached at the shoulder. Wachsmann thinks that these are hybrids (ibid:66-67) but they are sufficiently close to extant bronze vessels in form, and more generally in decoration (rosettes, arcades) to be readily identifiable as Aegean. Furthermore, a wide shallow bowl/basin of gold shown in the tomb of Rekmire that contains blocks of lapis lazuli and silver (Fig.8.63 no.5), is very similar to the type 28b two-handled pan known in bronze from various Aegean, mainly Cretan, contexts. There is also a small bronze pithoid amphora (Fig.8.59 no.2), which was identified as a typical LM IA type by Evans (1921-35 I.425-6) who suggested that the lower protuberances represented a second row of handles, as seen on numerous ceramic versions. Furumark has interpreted them as figure-eight shield decorations, which also appear pierced to form lugs on Minoan amphora (1950:235). Finally, and perhaps most famously, are the Vapheio cups shown



in several tombs, and which in the later representations have strap rather than spool handles, turning them more into my type 9a straight-sided cup.

There is also some tentative evidence for vessel types and elements typical of earlier periods to have survived. These include the crinkly, or quatre-foil, rim shown on a large bowl-like vessel (Fig.8.63 no.27) which is reminiscent of that found on the Gournia kantharos of the FPP. There is also a representation of a flat white circular vessel with yellow rim (Fig.8.60 no.8) which Wachsmann believes might be a top-down view of one of the less decorated versions of the large footed bowl depicted elsewhere with lotus buds. However, the central boss suggests that this was a shallow omphalos bowl found both in the Aegean and Anatolia, its gilded rim perhaps suggesting Minoan manufacture.

The Egyptian tombs paintings show other Aegean metal vessels which do not have surviving parallels but which include elements known from extant examples. For example, there are several bright yellow (=gold) footed vessels with spherical or oval bodies and a long fluted neck with a pair of antithetical standing lions as handles. Some of these vessels have arcades to different extents around the base, one has friezes of geometric designs around the shoulder and under the rim, and another has a torus moulding where the foot meets the body (Figs. 8.61 no.7, 8.62 no.7, 8.63 no.19), all of which are features known from extant Aegean metal vessels, as is the use of animal handles, although not specifically lion ones. There are also depictions of variants of this vessel type which do not have the lion handles (Figs. 8.60 no.10, 8.62 nos.12-13, 8.63 nos.30,33), and such low-level variation is indicative of Aegean metal vessels. These appear to represent varieties of a type of tall krater which has not survived in metal, although this body shape is known from a stone vessel with elaborate scroll handles from Zakros (Sakellarakis 1979:74,77 no.2720). There are also several other vessels that feature animal components (Figs. 8.62 nos.8,9; 8.63 nos.16-18) but which appear to be hybrids of a basic vessel shape which could be Aegean, but with Egyptian animal details. Eagle-head rhyta are also shown in two tombs in yellow (=gold, Figs.8.60 no.4, 8.63 no.13) and such vessels are not known from the Aegean, although this bird is known from Aegean wall paintings, so it is possible that griffin rhyta originally existed.

There are many examples of a type of wide, shallow, footed bowl, which is carinated and has a short concave neck being carried by Aegeans. This type is not known in the



Aegean and also, although its form and some of the decorative details could easily be Aegean, there is some debate over its origins. Most are depicted with lotus flowers and buds arising from the centres and rims, Egyptian motifs which could alternatively represent actual blooms (Hayes 1959(II):206). Against these vessels being Aegean, versions of them are shown being made in an Egyptian workshop and carried by Syrians (Wachsmann 1987:65). Aspects of their shape and design have a passing resemblance to gold and silver goblets from Shaft Graves III and V at Mycenae (Davis cat.nos.52, 82, 92), and other features such as the ornate, high-looping scroll handle can be found on other extant vessels. I therefore suggest another scenario: that these vessels were made in the Aegean, largely in accordance with Aegean style but incorporating elements that would appeal to Egyptian tastes, thus creating a hybrid vessel that, because it was made exclusively for use as tribute/gift to Egypt, we would not expect to find surviving versions of in the Aegean. This accords both with what is known of the regard held at this time in the Near East for Cretan metal workmanship, there having been a certain cross-pollination and eventual convergence of elite symbols in the wider eastern Mediterranean area by this time, and my own theory mentioned previously of the possibility that Crete acted as a specialist manufacturer and exporter of ornate precious metal vessels. The latter point perhaps finds further support in the fact that all but one of the vessels represented in the tomb paintings are of precious metals.

Another example of Minoan smiths perhaps having adapted Minoan vessels to Egyptian tastes is the chalices with lotus petal rim (Figs.8.61 no.36, 8.62 nos.39-40) which was probably achieved through inlay decoration rather than an uneven rim edge. Other possible Anatolian arrivals via the Aegean include three small ornamental buckets with basket handles which Wachsmann identifies as Egyptian (Figs.8.62 no.41, 8.63 no.56). However, while these might also be an Egyptian shape, their lobed bodies are reminiscent of the small bucket from OATC Kültepe (cat.no.279), the lower part of which I have interpreted as being shaped like the thighs seen on mother-goddess figurines. The cylindrical neck and use of a basket handle on this type of vessel is notably identical. Perhaps then these vessels also were originally from Anatolia and arrived in Egypt via Aegean ownership.

Depictions of fully bimetallic vessels, that is, vessels which have entire parts made of different metals rather than simply a gilded rim or handle, have already been mentioned above (Figs.8.60 no.15, 8.59 nos.1,3-4). These appear to be combinations of either



copper/bronze or gold below, with silver above (ibid:69). In addition to the well-known Aegean conical rhyton, a variation of this which has a small flaring base/foot is shown. Both kinds are represented decorated with a type of scale pattern and incised parallel lines under the rim, motifs found on numerous extant Aegean vessels, but most pertinently on the 'Siege Rhyton' from Shaft Grave IV at Mycenae. Additionally, two examples (Figs. 8.61 nos.21,24) have two handles instead of the usual one on this vessel type, and these have parallels in an LM IA sealing and a ceramic example from Phylakopi (Pendlebury 1930:pl.20; Furumark 1950:231,no.8).

Unfortunately, OATC and Hittite pictorial evidence is somewhat more enigmatic. As discussed in Chapter 3, it is evident that the Hittites produced a variety of alcoholic drinks, including beer and different types of wine, some of which were mixed variously with beer and honey (Gorny 1996:156), and which were largely the preserve of the king and those courtiers to whom he decided to apportion certain quantities. However, the graphic evidence is largely in the form of seal impressions, orthostats and depictions on metal and ceramic vessels, which lack colour and therefore do not provide the kinds of hints regarding the media depicted that are seen in the Egyptian wall paintings discussed above. For example, on a seal impression from Kültepe a seated individual is seen being served what may be KAŠ.GEŠTIN (a mixture of wine and beer) by an attendant with a 'teapot' style of vessel, and which he drinks from a two-handled jar with flaring neck using a long tube or straw (Fig.8.64). Apart from the flaring neck of the jar, it is otherwise not particularly metallic looking, nor is the vessel seen in a similar representation from the same site (Fig. 8.64). Similarly, an orthostate relief from Alaca which shows an individual on a throne-like seat drinking from a shallow bowl (Fig.8.65), gives no indication as to whether this vessel is ceramic or metal, although several metal versions have been found in conjunction with other drinking paraphernalia. There are also representations of the highly-stylised beak-spouted jugs of this period being used as libation vessels (Fig.8.66), but again it is not possible to say whether these were meant to depict metal vessels or their skeuomorphs.

In summary, both the textual and pictorial evidence confirms and contributes further to our view of what constituted the full Aegean metal vessel corpus. On the other hand, the absence of Anatolian 'tribute' bearers in the Egyptian tomb paintings and the little to be derived from the Hittite glyphs and texts, do not greatly advance our knowledge beyond that provided by the corpus of metal vessels themselves. A degree of caution is



necessary when using the Egyptian pictorial evidence, but careful scrutiny suggests not only a variety of metal vessel types that have not survived, but also indicates the greater complexity of craft, trade and diplomatic interconnections between the Aegean and the wider eastern Mediterranean in the early to mid-second millennium.

### 8.5 Comparative Summary

This review of the BA metal skeuomorphs contributes insights on several levels which both support and supplement current understanding of technical developments and changing social dynamics in Anatolia and the Aegean. Perhaps most basically, it has been possible to fill some of the gaps in the metal vessel record, particularly for those periods when vessels are either virtually or totally absent (e.g. FPP Aegean, HOK Anatolia), as well as suggesting other forms that have not survived in certain periods and which contribute to being able to perceive a more complete metal corpus (e.g. OATC silver rhyta). More specifically, there are also occasions when these skeuomorphs give clear indications of periods of development in the decorative and technical styles of metal vessels for which we have no primary evidence (e.g. FPP Minoan inlay and Greek mainland Minyan ware).

At a more detailed and social level, the use of colour on pottery to evoke different metal types gives indications of the differential regional availability of metals (cf. the absence of gold skeuomorphs on EM Crete with the Greek mainland Yellow Mottled ware), as well as a window onto social developments such as cycles of emulation. The latter are particularly visible in the EBA Aegean which, situated on the edge of the wider near eastern world system of novel elite consumption habits (Sherratt 1987), sought to identify itself with the latter and thereby reap concomitant status and economic benefits. This can be seen at an early stage on Crete (EM IIA) with the advent of Fine Grey Ware and shortly thereafter in the Cyclades and the Greek mainland in the form of particularly Urfinis skeuomorphs, both of which were appropriate vessels for high level entertaining due to their metallic, and specifically silver, references. The common occurrence of Urfinis across the EBA Aegean may indicate that the use of these metallic-looking vessels extended outside elite circles, but they may well have been kept for use in special contexts and/or on particular occasions.

Another phase of emulation, in this case specifically modelled on west Anatolian social modes, was prompted in the central Aegean and south and east Greek mainland by



Anatolian metal ware as reflected in the Lefkandi I/Kastri suite of skeuomorphs. The appeal of the latter which were descendents of metal vessels known in the Troad, would have been based partly on their metallic references, but perhaps as importantly, on their exotic origins and connections with the material culture and practices of societies closer to the core of the prevailing world system. The espousment in the Aegean of this suite of skeuomorphs is thus redolent with aspirational and emulatory intent and action. With regard to the EBA bronze and silver skeuomorphs in the Aegean, Davis' comment concerning the quantity of skeuomorphs being a reflection of the value of the metal prototypes rather than their frequency (1977:95) is pertinent. It also finds support in the lack of technical fidelity amongst EBA Aegean skeuomorphs generally, compared to the closeness in construction techniques seen in those from contemporary west Anatolia where perhaps potters were better acquainted with the work of smiths at metal rich sites such as Troy.

Some patterns in the type of metal skeuomorphed are more difficult to explain, for example the lack of gold skeuomorphs in the Aegean, with the exception of EBA Yellow Mottled Ware and SPP Cretan Tortoiseshell Ripple Ware, and Anatolia throughout the BA. In the case of the former this ware appears contemporaneously with the first (and few) known gold vessels on Crete and then disappears in the TPP. Given Davis' theory that Minoan tastes were more oriented towards silver and inlaid vessels (1977:330-2), the greater economic inaccessibility of gold (ibid:95-6), and the fact that Tortoiseshell Ripple Ware is more of an approximation of the play of light on gold rather than the full effect of its colour, the style and temporally-restricted nature of these gold skeuomorphs may be more of a reflection of both their rarity in Minoan Crete and the international shift from a silver to a gold standard. In Anatolia even in the EBA when gold vessels were pooling at Troy and Alaca, skeuomorphs of gold were generally not attempted. This, and the overall lesser quantity and variety of skeuomorphs in the north central area, would fit with Lloyd and Mellart's theory of an inverse relationship between the quantities of metal vessels in circulation and the quantity and type of skeuomorphs produced (1965:87).

This survey has also confirmed that, as in the case of their metal prototypes, there is a close correlation and relationship between the shapes in which metal skeuomorphs occur, and novel elite sumptuary practices, specifically the social consumption of alcohol, large scale hospitality and displays of conspicuous consumption, by means of



which competing elites endeavoured to raise their status through association with near eastern objects and practices. This is part of a much wider phenomenon throughout the near east (Kuhne 1976; Roaf and Killick 1987; Schwartz 1988) in which specialised paraphernalia connected with social and ritual behaviour was used both to unify and differentiate sections of societies that were experiencing initial or secondary stages of state formation (Joffe 1998:302,305).

Whereas metal vessels were the preserve of those sufficiently socially elevated, and later also of those individuals who were sufficiently wealthy, contemporary and diachronic contrasts in the distribution and use contexts of skeuomorphs indicate regionally different social positions and shifting roles for skeuomorphs. In the north central area of Anatolia during the EBA the comparatively low quantity of skeuomorphs perhaps suggests that all apparatus connected with such social practices were sumptuously controlled, whereas their greater prevalence in western Anatolia indicates less regulated emulation practices. During the second millennium the general infusion of ceramic assemblages with metallic references perhaps indicates a commodification of metal-like vessels and thus a 'trickle-down' effect to other areas of society of elite styles and ideology. This is illustrated particularly by the OATC skeuomorphs of 'missing' metal animal rhyta found in the houses of the new middle class of wealthy Assyrian merchants. This downward mobility of objects that in their style referenced rare and costly media, and crafts that had initially been elite-sponsored, continued throughout the Hittite period as seen in a continued broadening and generalising of metallic references in much of the ceramic repertoire.

By contrast in the EBA Aegean, metal skeuomorphs were the vessels used by the elites themselves, as well as other pockets of society throughout the Aegean who had a social and/or economic need for appropriate drinking apparatus. In this way skeuomorphs would have also served the purpose of locally unifying elite groups who competed with each other through the agency of their possessions that referenced exotic materials and practices. The production and control of the finest, and also most convincing forms of, skeuomorphs in the FPP, as seen in the mainly palatial distribution of Eggshell Ware, suggests an appropriation of not only the objects but the practices they were used for by these elites. In contrast to the case of LBA Anatolia, the later more general character of metallic references in Aegean pottery is not so widely disseminated but found mainly on Palace-style vessels, suggesting a maintenance of elite prerogatives.



In this regard therefore, and also in view of Voutsaki's observations regarding the changing balance of power in the early TPP Argolid, during which Mycenae gradually exerted sumptuary control over the elites of neighbouring sites (2001), the tin-covered vessels suggest interesting possibilities regarding the power dynamics of this area. If this tin came from the relatively new and alternative central European source suggested, its acquisition would have been testament to new specialised knowledge, possessed by a very few, of areas outside the sphere of knowledge of most of the community. Following Helms, its acquisition required the skilful ability to form and maintain relationships with peoples in distant, generally lesser known areas, actions and processes which would have been widely recognised in the presence of these tin-covered vessels and which would have been closely associated with their owners. The question is whether Mycenae was in control of this acquisition or whether the elites of other sites in LH IIIA1 competitively participated in sourcing tin. The presence of tin-covered vessels in the chamber tombs at the Athenian Agora, which would have been out of the sphere of Mycenae's influence, may indicate this. Lead isotope and petrographic analyses of these vessels may clarify this question by determining the sources(s) of the tin and whether these vessels were made at various sites or else just at Mycenae. If the latter is found to be the case, this would suggest they were gifts of largesse bestowed by the pre-eminent dynasty of the Argolid; if the former, that these vessels represented a final political resistance to the emerging supremacy of Mycenae.

Skeuomorphism thus represented a cognitive innovation that brought together elements of key social reference points, producing new-looking objects that enabled novel behaviour. Once this cycle was begun the desire for objects that would help achieve social imperatives, fed by an increasing awareness of the stylistic and technical attributes of metal, resulted in new forms of skeuomorph by which such social behaviours could be fed and expanded. By referencing up the comparative value scale to prestige forms of material culture, skeuomorphs inhabited a new niche in the relative value scale and provided social agents with access to a new form of sumptuary expression and competition. This phenomenon was not static, but rather an ongoing process of stylistic development, as well as a response and stimulus to culturally and chronologically specific imperatives, the products of which in turn reproduced society.



## Chapter 9

### Conclusions

The prestige surrounding metal vessels is the fundamental quality that has been the basis of this class of object's enduring allure, from the time of their earliest production through to the present day. It is also this quality that, as noted in Chapter 1, has traditionally inspired an art-historical approach to their study, and descriptive expositions regarding their functions. As with the closely-related concept of value, however, prestige is not inherent in an object but becomes associated with it through the processes of production and acquisition, use and consumption. It is part of a suite of notions that exists in a cognitive relationship that includes reputation, exclusivity, novelty and the exotic. The aim of studying the metal vessel corpora in the frames of their cultural and use contexts was to understand both how, as an innovation, they satisfied the social imperatives of the EBA, and subsequently contributed to the maintenance of elite prerogatives. By extending our field of vision further through the lens of cross-craft influences, it has been possible to perceive a fuller picture of how metals articulated society; the realisation that metal could be effectively evoked in clay both enabled and promoted cycles of emulation and competition. One innovation quickly spawned another providing both an impetus and means for further social development and change.

As outlined in Chapter 1, the basis of my methodological approach was the combined study of all types of BA metal vessels, rather than just bronze or gold and silver, from two regions (rather than one) that in antiquity were more closely connected, metal-rich areas with similar social trajectories. In this way a more comprehensive, comparative and diachronic picture of the social role of metal vessels could be gained from an analysis of patterns that emerged from a study of the techniques, styles, types, distribution and use contexts. In particular this has highlighted gaps in the corpora, and enabled contemporary inter-regional comparisons. The simultaneous study of all metal types has revealed time and area-specific correlations between shape, function, metal type and elaboration that contribute to an expansion of the cultural phenomena perceived and our potential to understand them. Theoretically, my approach was predicated on the belief that the objects that societies make and use embody and reproduce cultural logics and idioms (Dobres & Hoffman 1999:6) and that therefore



such patterns are meaningful in terms of the social dynamics surrounding their conception and use. Fundamentally these logics become part of the object through the choices made and those not made in their creation and consumption, and that therefore this should be the main locus of enquiry if we are to elucidate the sociality of these patterns. It is not my intention to rehearse here all of the points identified in this study, but rather to marshal those that contribute to and thus illustrate the principal socio-cultural trends that metal vessels and their skeuomorphs were involved in.

In various cases it has been possible to see that the choices made concerning the quantity, quality and diversity of metal vessels were the structuring principles behind the assessment and advertisement of prestige and status. Two particular cases stand out in this regard, EBA Alaca and the SPP Shaft Graves at Mycenae. In both instances a similar agenda can be perceived to have been in operation. With respect to quantity, and notwithstanding the question whether these collections were eccentric depositions or part of a wider (but as yet undiscovered) horizon of poolings of wealth, the huge number of vessels reflects choices and actions made in order to acquire such an amount of raw bullion. The impact of quantity is redoubled when we consider the size of individual vessels, particularly those of bronze, such as cauldrons and basins, which could weigh several kilos each. Moreover as gold, next to tin, was probably the rarest and most precious metal that consistently occurs in proportionately low quantities to all other media, the ability to possess more than one or two items of it would have been hugely impressive. Therefore, the collective weight as well as the number of metal vessels, and what this implied regarding its owners in terms of the power and wealth they could evidently wield both locally and further afield in its acquisition, would not have been lost on the community.

Metal vessels are also closely connected with the manipulation and consumption of what was evidently a precious and prestigious, probably alcoholic, liquid. As noted in Chapters 2 and 3 there is a large body of evidence linking metal vessels with alcoholic drinks such as beer and wine (Gorny 1996; Joffe 1998; Sherratt 1987a, 1991), and its transformative properties lent it an important role in the creation of status and the emergence of complex, hierarchical societies through its use in ritual, competitive feasting and in the control of its production and distribution (Dietler 1990; Dietler & Hayden 2001). As Dietler has also noted, importance would have been placed on the etiquette and paraphernalia surrounding its social deployment. As has been seen in



Chapters 4-7, a consistent correlation exists between highly ritualised consumption contexts, prestige and specialised drinking vessels and other indicators of socio-political complexity. Later in the BA, regular groupings of a narrow range of liquid manipulation metal vessels appear. Identified as drinking sets (Rutter 1986), they also occur in ceramic, sometimes in the same tomb, inferring there was a notion of appropriateness linking these vessel shapes that were either made in metal or were metal-like, and the consumption of alcohol. They often incorporate large capacity drinking vessels, and bronze kraters and lekanai, that could have contained a large volume of alcohol. They were found with adults, usually males (Wright 1996: table 18.2) suggesting that these vessels and the type of social drinking event were male-oriented, perhaps coming of age or similar male rites of passage. Furthermore, individual vessels within these sets each point to a structured process of preparation, decanting, pouring, offering/receiving and drinking, together suggesting a carefully choreographed event. Their size indicates that this was not a solitary process but a social one more like a symposium-style drinking event, the carefully shaped spouts indicating the need for careful manipulation of the liquid involved. The choices made as perceived through the quantity, types and size of metal vessels used therefore indicate they played a central role in major cultural changes driven by novel behaviour, perhaps dominated by groups of men, and by means of which it is possible to plot subtle changes in social trends.

The choice to produce and own vessels that displayed evidence of their quality through the skilled crafting of their construction and decoration, would have conveyed the belief that their owner was sufficiently influential and affluent to be able to command the best artisans. Quality was implicit in the skill involved in working large pieces of metal into vessels, in advanced techniques such as repoussé decoration, inlay and the combining of different metal on a single vessel. The highest quality vessels from the Shaft Graves have largely been ascribed to Minoan craftsmanship, a factor which may have added further to their value as they would have been recognised as being of renowned Cretan work. More generally, also involved in the choice process was the decision to sacrifice these valuables for the greater prize of social kudos, through highly visible acts of mass consumption when they were buried, sometimes ritually crushed, so ending their life and circulation.

Behind the decision to own a range of metal vessels of diverse shapes, that are perhaps even further differentiated from other such collections by stylistic variations, is the



desire to be socially conspicuous, individualistic and at the cutting edge of style innovation. At Alaca this was achieved in an otherwise highly cohesive local style through low-level variations achieved through different permutations of form, metal and decoration. This cohesive technological and decorative style reflects a complex and assertive form of communication concerning status and perhaps also kinship, that would have been explicit within this area and was thus an early form of branding. It can also be seen to have derived from within the wider Transcaucasian tradition of which the EBA north-central Anatolia culture centred on Alaca was descended. At Mycenae the diversity is apparent in the range of shapes, the high incidence of unique vessels and the multiplicity of other valuables and exotics in the assemblages, the ostentation of which served to further augment the message of wealth and prestige. Together these reflect an exogenous basis to the display of wealth by the elite here that advertised strong messages regarding the scope and depth of their foreign contacts.

Further similarities in the patterning and use of metal vessels at these two sites can be seen in the highly ritualised circumstances surrounding their final use: most likely a procession, drinking and feasting, before possibly crushing the vessels<sup>31</sup> prior to their deposition, in other words highly visible and extremely conspicuous consumption. In both cases the cultural context is that of an emerging elite, the agenda, the establishment of (dynastic?) pre-eminence. However, whereas the rulers of the Alaca area appear shortly thereafter to have lost their power, those at Mycenae proceeded through the next period to consolidate and extend theirs, achieving and expressing this through the same vehicles as well as restricting neighbouring elites' access to such engines for generating prestige.

As skilfully crafted objects metal vessels constitute an interface of technology, choices and specialist knowledge and thus were vectors of innovation as demonstrated in their influence on clay. Materially, the competition surrounding their acquisition and use spurred experimentation as seen in the creation of unique designs, ever-greater displays of technical and artistic virtuosity, and enabling and promoting novel behaviours. More generally, the increase in quality seen over time in both regions is congruent with an overall increase in social complexity and affluence associated with the establishment of palace-based states of the second millennium. By way of contrast in the MBA at Troy

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<sup>31</sup> It is not possible to determine definitively whether the vessels in the Shaft Graves were crushed, ie. 'killed', prior to deposition as the contents of these graves were through time pancaked by the weight and collapse of upper layers of material.



and on the Greek mainland where we do not have such signs of wealth, there is a lack of metal vessels and a simplification of metallurgical techniques witnessed in the skeuomorphs. The overall trend though is that both elite consumption and the metal and ceramic crafts were connected in a symbiotic relationship created by a competitive value spiral.

The diachronic study of cross-media influences demonstrated that the phenomenon of skeuomorphism encompassed a spectrum of effects and devices aimed at achieving a number of strategies. These can broadly be divided into those that have metallic characteristics so thickly incorporated and applied that they appear to be copies or 'fakes', others that comprehensively allude to metal vessels, not so as to deceive but to act as substitutes, and others which more loosely alluded to metal and blended such characteristics with those resulting from a pottery tradition. Examples of the first category include the tin-covered vessels from the TPP Greek mainland and the bronze-covered wooden offering tables from EBA Horoztepe. Such 'fakes' had the potential both to reinforce the status quo if controlled and distributed as largesse by a pre-eminent Mycenaean elite or, if acquired independently by elites at various centres, to undermine the established structure of perceived wealth of individuals or groups within a community and thereby act as the agents of social subversion. Irrespective of whether the tin was meant to look like gold, silver or itself, the intent of these and the offering stands was to give the impression that they were of solid metal.

The majority of ceramic skeuomorphs however, were not meant to deceive but to be convincing substitutes that through a combination of their referencing up the relative value scale to metal and the social contexts in which they were used, and the skilled crafting entailed in their production, rendered them appropriate and effective tools for emulating elite possessions and behaviour. Examples of this include FPP Minoan Eggshell Ware and the OATC shiny red and black skeuomorphs. By basing their attraction and value on metal they reinforced the higher status of metal and thereby the values on which society was based. Nor does their prevalence at certain places and times infer a concomitant glut of metal vessels in circulation but rather implies a demand by the many for apparatus by which the few could be emulated.

In the EBA when the south-eastern Cyclades was the principal locus of metal vessel acquisition, at least some of which I have suggested may have been Anatolian imports,



and there was a prevalence of skeuomorphs elsewhere in the Aegean, it is possible to sketch a scenario where the former was at the forefront of Aegean contacts with the wider near eastern world of novel elite behaviour. The lack of metal vessels on EM Crete may be a factor of this Cycladic socio-economic pre-eminence whereby the latter restricted what limited access they had to metal vessels and thus propagated a demand for appropriate substitutes. The use of metal skeuomorphs in situations of status drinking was the next stage in expressing and perpetuating the elite EM habitus witnessed first in EM I when specialised drinking equipment in the form of chalices was deployed for the purposes of elite competitive cycles (Haggis 1997). This is thus an instance in which the quantity of skeuomorphs reflects the rarity and high value, rather than circulating quantity, of metal vessels.

The third category of skeuomorphs which consist of more generalised metallic allusions, is particularly characteristic of those of the later periods, when references to metal had become part of the grammar of both palatial and the finer domestic ceramics. When in the LBA there is evidence that bronze vessels played a greater domestic role across a wider range of social levels, the skeuomorphs made reference to finely crafted and elaborated metal vessels that, based on extant metal examples, were most likely of silver, and in the case of Tortoiseshell Ripple, gold. The downward dissemination of elite styles, that in the translation become attenuated, thereby forms a broader means of value enhancement through objects that make a more general allusion to the elite stylistic argot with no pretension of being truly metallic. It may also have been that the trickle-down effect seen in the generalised and pervasive metallic references throughout the ceramic assemblages of both regions in the LBA, bespeaks also a similar democratisation of other previously elite prerogatives that the metal vessels and substitute skeuomorphs would previously have been used for. The 'middle class' merchant communities at Kültepe may be one of the earliest indications of this whereby the consumption of prestige, and hitherto restricted, substances such as wine became socially and economically more viable for a broader section of society who consequently needed appropriate vessels in which to consume it (Gorny 1996:160). Alternatively, the metal vessels at this site may have represented the more prestigious trappings of older customs.

One of the recurring problems in the data concerns the issue of when vessel survival rates and hence distribution patterns can be accepted as representative of the ancient



situation, and when they are illusory due to either exceptional depositional events, recycling, or a lack of traditional archaeological 'traps'. A single, universal answer to this question is inappropriate, precisely because of geographic and temporal variations in human behaviour and chance (often catastrophic) events. However, the metal skeuomorphs can suggest answers to specific situations. For example, the small number of surviving Aegean EBA metal vessels is most likely a fair reflection of their rarity here, supported by the unfamiliarity with them suggested by the lack of technical fidelity seen in Cretan skeuomorphs and the very few shapes Urfinis and Yellow Mottled wares occur in. Conversely, it appears there were more in circulation in FPP Crete judging by the overall character of Eggshell Ware and the indications they contain of new metallurgical techniques. The high-status contexts of this ware and the absence of surviving metal originals that inspired it lends support to my theory, noted in Chapter 5, that Minoan precious metal vessels were produced primarily for the export market at this time, with these skeuomorphs taking the role of high quality substitutes on Crete. The lack of gold skeuomorphs in the latter period probably reflects the economic reality of the great rarity of gold, seen also in its sparing use in contemporary jewellery, and thus as counterfeits they would not have been believable and therefore not an effective form of elite propaganda aimed at suggesting far greater wealth and power

This research has demonstrated how the study of prestige objects can be re-oriented away from the art historical towards greater access to the socio-cultural information embedded in these objects. However, more consistent and fine-grained publication of excavated material and its contexts, particularly in the case of grave assemblages, would enable further insights. For example, the general lack of sexed grave data makes it impossible to suggest any correlations between gender and vessel type, metal and colour. Such information would permit future research to explore what roles metal vessels and their skeuomorphs played in the negotiation of gender roles and identities.

Drawing this discussion to a close, the underlying diachronic theme therefore, which was detected consistently through the discussions of the use contexts of metal vessels, and by means of which they would in antiquity have become associated with the overarching concept of prestige, is that of appropriateness. Societally-recognised and accepted forms of metal vessel were used in ritual and highly stylised social events, and formed part of a complex of elite paraphernalia, habits and etiquettes. Examples of unique metal vessels such as the 'Cup of Nestor' which could be viewed as "super



prestige" items because of their singularity of design would have been immediately recognisable as belonging to a particular individual, or if heirlooms, a family line. If the latter, they would have become associated with past events and previous, perhaps famed owners, such 'biographies' and symbolism attracting further value to them and, in turn, making them suitable for use by other prominent members of society. They were a most appropriate means of augmenting social distance between those who owned and those who did not own them, inspiring those with social aspirations to acquire substitutes that would through their metallic references be appropriate means by which to ape elite ritual and social modes. They were part of a suite of objects that could be used as vehicles of power diffusion, alternately given as a privileged gift or reward, or withheld to express disfavour or motivate through competition. This study of both the metal vessels and their skeuomorphs has thus elucidated some of the concepts that linked the material with the social, and shown how as symbols of excellence and appropriateness, metal vessels were thus empowered to reproduce the societies that made them.



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